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Engineer's Project Report
Butte Shafts Reclamation
Phase V

Prepared For:

Abandoned Mine Reclamation Bureau
Reclamation Division
Montana Department of State Lands

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Ben Mundie, Geologist
Department of State Lands
1625 Eleventh Avenue
Capitol Station
Helena, MT 59620

Dear Ben,

Enclosed, please find two copies of the Engineer's Project Report for Butte AML - Phase V. The slides for the photo copies are in a separate binder.

If you have any questions, please don't hesitate to call me.

Sincerely,

Bob

Robert D. Braico, P. E.
Civil/Environmental Engineer

RDB:jy

Enclosures

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ENGINEER'S PROJECT REPORT

BUTTE SHAFTS RECLAMATION
PHASE V

for

Abandoned Mine Reclamation Bureau
Reclamation Division
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BUTTE SHAFTS RECLAMATION PROJECT

PHASE V

PROJECT INTRODUCTION AND SUMMARY

The Department of State Lands Butte Shafts Reclamation Project, Phase V, Silver Bow County, MT consisted of reclamation of the Steward, Little Mina, Mountain Con No. 1, Mountain Con No. 2, West Gray Rock, Anselmo Sand Pass, Belmont, Alice Pit, Humboldt, Belle of Butte, Josephine, Clear Grit and East Little Mina Mine sites. All sites are in or immediately adjacent to the communities of Butte, Centerville and Walkerville. Reclamation consisted of shaft backfilling or capping; removal of waste rock dumps; removal of selected surface facilities and site debris, and the application of cover soil, lime, fertilizer, mulch and seed at most sites (Table 1). Primary objective of the reclamation was to eliminate existing public safety and health hazards.

All work was conducted on properties recently sold by Montana Resources, Inc. to Butte Precious Metals Corp. Several of the sites were not included in the original project.

The engineer's estimate for the project was $687,546.00. The bid price was $465,787.36. Total construction cost of the project, including 10 work directives was $999,261.92. Engineering cost was $68,013.31. Total project cost was $1,067,275.23.

TABLE 1. SUMMARY OF BUTTE SHAFTS RECLAMATION - PHASE V WORK ACTIVITIES

Mine Site Name	Remove Structures	Remove Fence (ft)	Replace Fence (ft)	Cap Shaft	Back-fill Shaft	Re-install Shaft Guides	Remove Waste Dump (cu.yds)	Grade Site	Apply Lime Veneer	Apply Topsoil	Lime, Seed, Ferti-lize, Mulch	Construct Riprapped Channel	Construct Storm Sewer	Area of Disturbance (acres)
Steward	X			X		X					X			0.10
Little Mina	X	X	X	X			X	X	X		X	X	X	8.36
Mountain Con No. 1	X			X		X								N/A
Mountain Con No. 2				X			X	X	X	X	X	X		0.75
West Gray Rock	X	X	X	X			X	X	X	X	X	X		5.85
Anselmo Sand Pass		X		X										0.05
Belmont	X			X		X		X			X			0.34
Alice Pit			X											N/A
Belle of Butte	X			X				X			X			0.18
Josephine					X									N/A
Clear Grit												X		N/A
Unamed shaft near East Little Mina					X									N/A
Unnamed Shaft near West Gray Rock					X									N/A
West Gagnon									X	X	X			1.75
Humboldt					X									N/A

The contract was awarded to West Valley Construction Company, Inc. of Butte on April 14, 1987. Work was started on April 20, 1987. Only one and one-half days were lost because of inclement weather. All site work was concluded on November 6, 1987 and the final payment request was approved on November 9, 1987. Scheduled date for project completion was December 12, 1987.

Project period authorized was 241 calendar days which included 91 calendar days additional as a result of Change Order No. 1. Actual calendar days used 206.

The contractor performed in exemplary fashion. He had the knowledge, experience and equipment to accomplish the work correctly and efficiently. His employees were conscientious, efficient and easy to work with. There were no conflicts over the scope of the contract or the amount of extra work authorized.

PROJECT DESCRIPTION

The project consisted of one single contract for reclamation of 15 abandoned mine sites in the Butte-Centerville-Walkerville area (Table 1). The work consisted of removing two large waste rock dumps, capping 8 shafts, backfilling 4 shafts, construction of several hundred feet of riprapped drainage channel and extensive site preparation for revegetation at several sites. One change order encompassing 10 work directive changes was issued at the conclusion of the project. The change order included extensive revision of the

original scope of work to allow removal of additional waste rock dump material, inclusion of recently caved shafts not in the original contract documents, additional revegetation on a previously completed site and other additional work.

The major single cost item on this contract was waste dump removal. A total of 456,081 cubic yards of waste rock was removed from the Little Mina and West Gray Rock Mine areas. Other major cost items were lime veneering and topsoiling. Experience gained over the last several years has shown revegetation results are only fair to poor when amending native soils extensively contaminated with metals leached from overlying acidic waste rock. Excellent revegetation is assured if a crushed limestone, followed by several inches of topsoil, is used on these sites.

A total of 8 shafts were capped using prestressed concrete beams. Four shafts were backfilled. Shafts were backfilled using locally-available materials and substantial quantities of water. The water was used to induce consolidation of previously placed backfill and the new backfill.

Equipment used at each of the sites is described in Table 2. Because it was not necessary to use public streets, 20 cubic yard ore trucks were used to efficiently move the waste rock dumps.

TABLE 2. EQUIPMENT AND METHODS

Equipment	Use
° John Deere 690B backhoe	General excavation
° John Deere 410 backhoe	General excavation
° 12-cy end-dump trucks	Haul waste rock
° 2-cy front-end loader	Load waste rock into truck
° Pettibone Telescoping Crane (15 tons)	Install prestressed concrete beams
° 100 cfm air compressor and drill	Drill concrete foundations for removal
° Transporter	Haul equipment to job site
° Hough 6-cy front-end loader	Load waste rock into trucks
° 3600 gallon water truck	Transport water used to backfill shafts
° Caterpillar D6-G crawler tractor with straight blade	Push waste rock to loader
° Caterpillar D8-K crawler with ripper	Push waste rock to loader
° 20-cy off-road haul trucks	Haul waste rock
° Welder/Cutting torch	Temporary removal and reinstallation of shaft guides and guide supports
° Caterpillar 988 6-cy front-end loader	Load waste rock into trucks
° Caterpillar 235 backhoe	Construct riprapped channel, install RCP pipe
° Caterpillar 966C front-end loader	Load waste rock into trucks
° Caterpillar 938B front-end loader	Load waste rock into trucks
° Caterpillar 12F motor grader with 14-foot blade	Finish grade sites

Steward Shaft

The Steward Mine site is at the northeast corner of the Main Street/Woolman Street intersection and approximately two blocks north of Butte's business district. The major objective at this site was to cap the shaft with 8 prestressed concrete beams while maintaining the visual integrity of the site. Because of the manner in which the surface facilities were constructed, the concrete beams could not be laid parallel to the long axis of the shaft (east-west), beginning at the back of the shaft. Therefore, the beams were laid in a north-south direction at right angles to the main axis of the shaft. In order to gain support for the south-end of the beams, it was first necessary to backfill the underground tool room on the south side of the shaft. A geotextile was used to construct a fabric-reinforced soil well to prevent the backfill from eventually falling into the shaft. The other side of the backfill was placed against an existing concrete retaining wall. Other work at the Steward consisted of constructing two reinforced concrete columns to support the ore bin after first removing the rotten timber supports; reinstalling the shaft guides and guide supports; and mulching, fertilizing and seeding areas disturbed by the construction.

Little Mina Mine Site

Work required at the Little Mina site was extensive and consisted of waste rock dump removal (230,382 cy), shaft capping, haul road relocation, riprapped channel construction (995 LF), storm sewer construction (148 LF), grading, lime veneering, topsoiling, seeding,

mulching and fertilizing. The Little Mina Mine site is between Main Street and the Kelley Mine yard. A large work directive was issued for this site for construction of the storm drain, to allow removal of considerable additional waste rock, and to allow additional lime veneering and topsoiling.

Mountain Con No. 1

The Mountain Con No. 1 site is immediately north of the Little Mina site. Capping of the large, deep shaft was the major objective at this site. In order to accomplish this objective, it was first necessary to install a large prestressed concrete beam along the back of the shaft to support one end of the beams used for capping. The total length of the shaft compartments was too large to be spanned by concrete beams laid parallel to the long axis of the shaft. Additional work consisted primarily of backfilling a pipe gallery and attaching safety chains to mine skips and man-cages suspended from the headframe. Reclamation of steep waste rock dump faces was not included in this project.

Mountain Con No. 2

The Mountain Con No. 2 site is at the extreme west edge of the Mountain Con No. 1 site. The headframe for this shaft had been removed many years before and the only remaining evidence was surface subsidence caused by a partially failed timber bulkhead. Work at this site consisted of removal of the small, adjacent waste rock dump (8,258 cy) and the associated rubble retaining wall; shaft capping;

site grading; construction of 442 LF of riprapped channel; installation of 110 LF of 15-inch RCP culvert; lime veneering; topsoiling; seeding and mulching.

West Gray Rock Mine Site

The West Gray Rock site is just off the east end of Center Street in Centerville. The site was characterized by a massive waste rock dump (125,699 cy) and a large reinforced concrete fan tube and housing. The waste rock dump was removed in its entirety under the contract. However, rains on underlying soils in July 1987 showed the soils were grossly contaminated by metals salts leached from the overlying waste rock. As moisture from the rains evaporated, a white crust of evaporates formed over expansive areas. Because of an extensive evaporates problem at previously reclaimed sites where native soils were only amended by liming before seeding and mulching, most of the West Gray Rock site was veneered with crushed limestone and topsoiled before mulching, seeding and fertilizing. This has been demonstrated to eliminate the evaporates problem and ensure effective revegetation.

In order to remove the waste rock dump, it was necessary to temporarily remove 474 LF of chainlink fence, remove 600 LF of abandoned railroad track and bed, and remove a rotted and dilapidated former load-out facility. A large portion of the fan tube and housing was heavily reinforced, could not be broken up and was buried on-site. The shaft was capped with 13 prestressed concrete double-tee beams.

Anselmo Sand Pass Site

The Sand Pass is in a residential neighborhood on Butte's west side near the intersection of the former BA&P Railroad and Copper Street. Except for a chainlink fence, there were no surface facilities. The shaft had been bulkheaded below the surface and then backfilled from the bulkhead to the surface years ago. Work at this site consisted of removal and salvage of the chainlink fence and capping of the shaft with 6 prestressed concrete double-tee beams. The site was revegetated by liming to amend existing soils, mulching, seeding and fertilizing.

Belmont Mine Site

The Belmont waste rock dump was revegetated by the Anaconda Minerals Company in the early 1980's. However, no reclamation was done within the mine yard which is enclosed with a chainlink fence.

The Belmont is at the intersection of Mercury Street and Continental Drive and is characterized by a scenic headframe and hoist house. The ore bins are still intact. Continental Drive is one of the main travel corridors to and from Butte's historic uptown business district. A recently completed park area is immediately south of the Belmont site.

Work at the Belmont was originally limited to capping of the shaft with 7 concrete beams and demolition and backfilling of the entrance to an underground work room. However, because the underground room

extended underneath the ore bins and beyond, and because the timber roof was in poor condition, it was necessary to issue a work directive to completely backfill the room to preclude unauthorized entrance to the shaft when the roof eventually failed. Access to allow backfilling was gained by breaking through the roof structure in several locations. The backfill was used to construct a geotextile wall along the south side of the shaft. The fabric-reinforced wall precludes the backfill from falling into the shaft and thus maintains the integrity of the shaft water level monitoring system. Other work at the Belmont consisted of revegetating areas which were disturbed by the construction and replacing the shaft guides and supports to maintain the visual integrity of the site following reclamation.

Alice Pit

The Alice Pit and its adjacent waste rock dump are in Walkerville, The dump is on the skyline and easily seen from Highway I-90. Work at the Alice Pit consisted of replacing sections of chainlink fence which had been stolen. The pit had been fenced completely by the Anaconda Minerals Company in past years.

In some sections, only the fence fabric and top rail needed to be replaced. In other sections, the posts, top rail and fence fabric had to be replaced. Grading of the safety berm was needed along the west side in order to create a suitable surface for installing the fence. A total of 1335 linear feet of fence was replaced.

Belle of Butte

This three-compartment shaft is in Walkerville, immediately east of the Alice Pit. The shaft had been bulkheaded an unknown distance below the surface years ago by the Anaconda Minerals Company. Waste rock was then used to fill the shaft from the bulkhead to the surface. No surface structures remained.

Because this shaft was located in the back yard of a residence, the threat of shaft caving presented an unreasonable threat to public safety. Work at this site consisted of shaft capping with 11 prestressed concrete beams. Extra work was authorized to remove unanticipated concrete footings, excavate additional soils and install one additional beam. The extra beam was necessary because the Anaconda Minerals Company record books showed the shaft as having two compartments when, in fact, there were three compartments. Following capping, existing soils were amended with lime and the site was mulched, fertilized and seeded.

Josephine Mine Site

The Josephine Mine site is about 1 block east of the Lexington Mine site and was reclaimed under a community-sponsored, equipment-training program in the early 1980's. This reclamation consisted of site grading, mulching, fertilizing and seeding. All surface facilities had been removed and backfilling of the shaft had been completed years ago by the Anaconda Minerals Company.

Substantial spring and summer rains caused the Josephine and several other poorly backfilled shafts in the Butte and Walkerville area to subside unexpectedly in 1987. As a result, backfilling of the Josephine shaft was added to the contract as an extra work item. Backfilling was accomplished by excavating the shaft to an approximate depth of 25 feet, introducing large volumes of water into the excavation to induce additional subsidence (water was added to the point of refusal) and then backfilling the shaft to the surface when further subsidence could not be induced. Water was used to consolidate soils used to backfill the shaft.

Clear Grit Mine Site

The Clear Grit site is between the Mountain Con. No. 1 and the Steward Mine sites and adjacent to the east side of Main Street. Reclamation of the Clear Grit Mine site was accomplished in early 1987 under the Phase IV construction contract and consisted of shaft backfilling, waste dump removal, riprapped channel construction and site revegetation activities. However, runoff from spring and summer rains showed additional riprapped channel was needed to completely capture street runoff from the street adjacent to and above the site. Approximately 100 linear feet of riprapped channel was added under a work directive change to this contract.

Unnamed Shaft Near East Little Mina Mine Site

This unnamed shaft is between the Little Mina and Kelley Mine sites. All surface facilities were removed and the shaft backfilled many

years ago by the Anaconda Minerals Company. Spring and summer rains in 1987 caused the shaft to subside approximately 40 to 60 feet at the surface by July 1987. As a result, backfilling of the shaft was added to the contract as an extra work item. Backfilling was accomplished by introducing large volumes of water into the excavation to induce additional subsidence (water was added to the point of refusal) and then backfilling the shaft to the surface when further subsidence could not be induced. Water was used to consolidate soils used to backfill the shaft.

Unnamed Shaft Near West Gray Rock Mine Site

Substantial spring and summer rains caused the surface subsidence of a small, unnamed shaft immediately east of the West Gray Rock mine dump. The shaft is located in a public street. Backfilling of this shaft was added to the contract as an extra work item. Backfilling was accomplished by excavating the shaft to an approximate depth of 25 feet, introducing large volumes of water into the excavation to obtain additional subsidence (water was added to the point of refusal) and backfilling the shaft to the surface when further subsidence could not be induced. Water was used to consolidate soils used to backfill the shaft.

West Gagnon Mine Site

The West Gagnon site is on Butte's west side at the intersection of Woolman and Washington Streets. Most of the reclamation at this site was accomplished in 1986 under the Phase III contract. Because the

contractor was uncooperative, a change order for extra work was issued to Butte-Silver Bow. Butte-Silver Bow did not complete the scheduled extra work. So, by mutual agreement, remaining work was completed under a work directive change to the Phase V contract. This work consisted of lime veneering, topsoiling, mulching, fertilizing and seeding behind asphalt curbing installed by Butte-Silver Bow. In addition, lime veneer, topsoil, mulch, fertilize and seed were applied to the central portion of the site where revegetation was poor or had failed. Liming of existing soils was not considered adequate to obtain significant revegetation because leached salts from the previously overlying waste rock had already shown liming to be ineffective on portions of the site.

Work at the West Gagnon site is now considered complete. Reclamation of the site under Phases II and IV consisted of capping of the shaft with prestressed concrete double-tee beams, waste dump removal, installation of asphalt curbing around the site to control run-on, lime veneering, topsoiling and site revegetation.

Humboldt Mine Site

The Humboldt shaft is on the southside of Buffalo Street and between Main Street and Montana Street. Substantial spring and summer rains caused surface subsidence (about 2 feet) of this shaft in 1987. The shaft and adjacent areas were revegetated by the Anaconda Minerals Company in 1985. The shaft was bulkheaded and backfilled several years earlier.

Backfilling of the Humboldt shaft was added to the contract as an extra work item. Backfilling was accomplished by excavating the shaft to a depth of about 25 feet, introducing large volumes of water into the excavation to obtain additional subsidence (water was added to the point of refusal) and backfilling the shaft to the surface when further subsidence could not be induced. Water was used to consolidate soils used to backfill the shaft.

Work completed at this site is not permanent. Boulders placed in the shaft with the original backfill are bridged across the shaft and prevented effective consolidation of previously backfilled materials. The boulders could not be dislodged. Inspection of the site in late October 1987 showed surface subsidence has already begun. The site has been added to the list of shafts to be capped in 1987 but is not considered an immediate safety hazard.

Diamond Shaft Site

The Diamond shaft was covered with a precast concrete cap in early 1987 under the Phase IV contract. Late spring rains in 1987 caused three openings to occur peripheral to the shaft. These openings allowed access to undcerground pipe vaults and were considered attractive nuisances. A work directive to the Phase V contract was issued to backfill these openings.

CHANGE ORDER

One change order encompassing 10 work directives was issued for

$533,474.56. Extra work authorized by change order and work directives consisted of additional concrete removal, backfilling of an underground room and construction of a fabric-reinforced soil wall, all at the Belmont Mine; installation of approximately 110 lineal feet (LF) 18-inch diameter RCP and associated appurtenances to control runoff, removal of additional waste rock (138,382 cy), construction of additional riprapped channel and relocation of a haul road all at the Little Mina Mine site; removal of additional concrete foundations and installation of one additional concrete beam at the Belle of Butte Mine; removal of additional concrete and timbers, backfilling of pipe galleries, attachment of safety chains to mine skips and man-decks, and reinstallation of shaft guides and guide supports, all at the Mountain Con No. 1 Mine; backfilling of the Josephine Mine shaft; construction of additional riprapped stormwater runoff control channels at the Clear Grit Mine site; installation of a 15-inch culvert across the haul road below the Mountain Con No. 2 Mine site; additional waste rock removal (27,699 cy), site grading and revegetation peripheral to the West Gray Rock Mine site; backfilling of an unnamed shaft near the East Little Mina and Humboldt Mine shafts plus an unnamed shaft in a public street just west of the West Gray Rock Mine; finish topsoiling and revegetation at the West Gagnon Mine site; replace timber ore bin supports and perform revegetation work at the Steward Mine site and backfill openings in the pipe gallery at the Diamond Mine Site. Also, additional lime veneering and topsoiling was performed at the Little Mina and the West Gray Mine sites.

PROJECT PROBLEMS

No problems were evident on this project. The Contract had experienced, well-trained crews that worked efficiently on several sites at several times and were very easy to work with. His equipment was well suited to the project and was well maintained and operated.

COST SUMMARY

The contract award amount was $465,787.36. The engineer's estimate was $687,546.00. One change order (incorporated 10 work directives) was issued for extra work, changed quantities and additional sites for $533,474.56. Total construction cost was $999,261.92. Detailed contract costs are shown on the Final Payment Request (Appendix I). Reclamation costs for each site are summarized in Table 3. The engineer's estimate was based on bid prices for Phase II and Phase III contract work.

Engineering consultant costs were $68,013.31, or 6.8% of construction costs, and included preliminary engineering, development of detailed plans and specifications, construction inspection, project administration and preparation of the final report (Table 4). Appendix II contains the inspector's daily log.

TABLE 3. SITE RECLAMATION COSTS

SITE	ENGINEER'S ESTIMATE	ACTUAL COST
Mobilization	$5,000.00	$9,400.00
Belle of Butte		
Contract	$17,000.00	$14,304.93
Work Directive No. 5	$3,865.59	$2,550.12
Work Directive No. 10	$224.55	$247.51
Site Total	$21,090.14	$17,102.56
Anselmo Sand Pass		
Contract	$11,500.00	$9,727.40
Work Directive No. 10	$224.55	$247.52
Site Total	$11,724.55	$9,974.92
Steward		
Contract	$35,000.00	$18,564.00
Work Directive No. 2	$0.00	$0.00
Work Directive No. 9	$5,500.00	$19,756.65
Work Directive No. 10	$1,024.55	$1,047.51
Site Total	$41,524.55	$39,368.16
Belmont		
Contract	$17,500.00	$15,089.41
Work Directive No. 3	$1,400.00	$1,407.94
Work Directive No. 4	$9,160.00	$13,132.67
Work Directive No. 10	$549.55	$415.51
Site Total	$28,609.55	$30,045.53
Mountain Con No. 1		
Contract	$27,800.00	$24,354.91
Work Directive No. 5	$2,800.00	$3,193.15
Work Directive No. 6	$1,826.00	$5,071.00
Work Directive No. 10	$549.55	$332.52
Site Total	$32,975.55	$32,951.58
Mountain Con No. 2		
Contract	$42,470.00	$38,797.74
Work Directive No. 6	$300.00	$927.39
Work Directive No. 10	$253.63	$2,426.60
Site Total	$43,023.63	$42,151.73
Page Total	$183,947.97	$180,994.48

TABLE 3. (continued)

SITE	ENGINEER'S ESTIMATE	ACTUAL COST
Bal Forward	$183,947.97	$180,994.48
West Gray Rock		
Contract	$257,373.00	$204,195.49
Work Directive No. 6	$315.00	$840.00
Work Directive No. 9	$56,093.75	$40,519.16
Work Directive No. 10	$549.55	$1,091.52
Site Total	$314,331.30	$246,646.17
Alice Pit		
Contract	$23,028.00	$10,765.00
Site Total	$23,028.00	$10,765.00
Little Mina		
Contract	$255,850.00	$422,182.53
Work Directive No. 1	$840.00	$840.00
Work Directive No. 5	$50,000.00	$70,452.00
Work Directive No. 6	$2,400.00	$927.40
Work Directive No. 8	$6,225.00	$15,534.62
Work Directive No. 9	$23,750.00	$11,899.20
Work Directive No. 10	$474.55	$597.51
Site Total	$339,539.55	$522,433.26
Unamed shaft west of West Gray Rock		
Contract	$0.00	$0.00
Work Directive No. 7	$1,500.00	$1,012.00
Site Total	$1,500.00	$1,012.00
Unamed shaft east of Little Mina		
Contract	$0.00	$0.00
Work Directive No. 7	$1,500.00	$1,421.00
Site Total	$1,500.00	$1,421.00
Humbolt Shaft		
Contract	$0.00	$0.00
Work Directive No. 7	$1,500.00	$620.00
Site Total	$1,500.00	$620.00
Page Total	$865,346.82	$963,891.91

TABLE 3. (continued)

SITE	ENGINEER'S ESTIMATE	ACTUAL COST
Bal Forward	$865,346.82	$963,891.91
West Gagnon		
Contract	$0.00	$0.00
Work Directive Nos 8&9	$32,175.00	$33,595.01
Site Total	$32,175.00	$33,595.01
Diamond		
Contract	$0.00	$0.00
Work Directive No. 10	$325.00	$315.00
Site Total	$325.00	$315.00
Josephine Shaft		
Contract	$0.00	$0.00
Work Directive No. 6	$1,500.00	$960.00
Site Total	$1,500.00	$960.00
Clear Grit		
Contract	$0.00	$0.00
Work Directive No. 6	$500.00	$500.00
Site Total	$500.00	$500.00
TOTAL PHASE V COST	$899,846.82	$999,261.92

TABLE 4. ENGINEERING AND ADMINISTRATION COSTS

Description	Cost	Percent of Construction Cost
Plans and Specifications (Includes Preliminary Engineering)	$ 30,198.94	3.0%
Project Administration	15,983.33	1.6%
Construction Inspection	21,831.04	2.2%
Project Engineering Costs	68,013.31	
Construction Cost	999,261.92	
TOTAL PROJECT COST......	$1,067,275.23	

Final Payment Request

Globe-Weis
91

Hydro.

PAYMENT REQUEST #5 ~~Semi-~~final

From: Sept 16, 1987 To: Oct. 26, 1987

Project Name: Butte Shaft Reclamation Phase V

Location: Butte, Montana Project No: A/E 86-46-126

Name of Contractor: West Valley Construction Co., Inc.

Address: P.O. Box 588, Anaconda, Montana 59711

SUMMARY OF PROJECT STATUS

Amount of Original Contract	\$ 465,787^{36}
Amount of Approved Change Order(s)	533,474^{56}
Total Contract Amount	\$ 999,261^{92}
Contract Time Used To Date	206 days
Percentage of Contract Time Used	85.4%
Percentage of Contract Amount Earned	100.0% RDB

Original Contract Amount Completed	\$ ~~767,959.^{29}~~ 767,381^{41} RDB
Change Order(s) Amount Completed	~~231,880.^{51}~~ 231,880^{51} RDB
Amount for Materials on Site	-0-
Total To Date	\$ ~~999,839.^{80}~~ 999,261^{92} RDB
Times ~~[illegible]~~ -0- - Retainage	\$ -0-
Total Amount Earned to Date	~~999,839.^{80}~~ 999,261^{92} RDB
Less Previous Amount Earned	852,844.^{06}
Amount Payable This Period	~~146,995.^{74}~~ 146,417^{86} RDB
Less 1% Gross Receipts Tax	~~1,469.^{96}~~ 1,464^{18} RDB
Total Due Contractor This Period	\$ 145,525.^{78} 144,953^{68} RDB

Requested by: West Valley Construction Company, Inc.

Ron Stanisich Date 11-6-87

(Contractor)

Checked by: Hydrometrics

Robert D B Date 11-9-87

(Engineer)

Approved by: Department of State Lands
Abandoned Mine Reclamation Bureau

Richard J Date 11/9/87

(Owner)

PROGRESS ESTIMATE NO. 5- Semi-

PROJECT: A/E 86-46-126
PROJECT NAME: Butte Shaft - Phase V

FROM: Sept 16, 1987
TO: Oct. 26, 1987

Page 1 Of 5

ITEM NO.	DESCRIPTION	ESTIMATED PLAN QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF ESTIMATED QUANTITY COMPLETED
	MOUNTAIN CON NO. 1 SHAFT						
1	Remove Steel Guides & Guide Supports	Lump Sum	4,587.77	-0-	100%	4,587.77	
2	Construct Gravel Pads	Lump Sum	809.13	-0-	100%	809.13	
3	Install Prestressed Concrete Box Beam	1 Each	5,883.53	-0-	1ea	5,863.53	
4	Install Precast Concrete Channel Section	12 Each	1,089.54	-0-	12ea	13,074.48	
	Site Total					24,354.91	100%
	WEST GRAY ROCK SHAFT AND WASTE DUMP						
1	Install Temporary Surface Bulkhead	Lump Sum	192.05	-0-	100%	192.05	
2	Remove Air Tunnel	Lump Sum	6,164.80	-0-	100%	6,164.80	
3	Remove Waste Dump	98,000 Cubic Yd	1.25	-0-	125,699.0cy	157,123.75	
4	Fence Relocation	500 l.f.	5.72	-0-	474 l.f.	2,711.28	
5	Remove Loading Platform	Lump Sum	770.60	-0-	100%	770 60	
6	Remove Pipeline	600 l.f.	2.31	-0-	600 l.f.	1,386.00	
7	Remove Railroad Tracks	480 l.f.	4.02	-0-	493 l.f.	1,981.86	
8	Grading & Cleanup	4.6 Acre	69.60	-0-	5.85 Acre	407.16	
9	Gravel Pads	Lump Sum	732.07	-0-	100%	732.07	
10	Precast Concrete Channel Section	13 Each	1,089.54	-0-	13ea	14,164.02	
11	Construct Riprapped Channel	925 l.f.	9.25	-0-	885 l.f.	8,186.25	
12	Liming	204,000 lbs.	0.05	115,200 lbs	115,200 lbs	5,760.00	
13	Mulching	15,300 lbs.	0.12	17,550 lbs	17,550 lbs	2,106.00	
14	Fertilizing	1,570 lbs.	0.75	1,801.80 lbs	1,801.8 lbs	1,351.35	
15	Seeding	102 lbs.	9.90	117 lbs	117 lbs	1,158.30	
	Site Total					204,195.49	100%

P. Total = 228,550.40

PROGRESS ESTIMATE NO. #5 Semi-final

PROJECT: A/E 86-46-126
PROJECT NAME: Butte Shaft - Phase V
FROM: Sept 16, 1987
TO: Oct. 26, 1987
Page 2 Of 5

ITEM NO.	DESCRIPTION	ESTIMATED PLAN QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF ESTIMATED QUANTITY COMPLETED
	ANSELMO SAND PASS						
1	Remove Chain Link Fence	Lump Sum	512.45	-0-	100%	512.45	
2	Construct Gravel Pads	Lump Sum	693.55	-0-	100%	693.55	
3	Install Precast Concrete Channel	6 Each	1,286.90	-0-	100%	7,721.40	
4	Liming, Fertilizing, Seeding & Mulching	Lump Sum	800.00	-0-	100%	800.00	
	Site Total					9,727.40	100%
	BELMONT SHAFT						
1	Remove Steel Guides & Guide Supports	Lump Sum	3,371.38	-0-	100%	3,371.38	
2	Remove Adjacent Stairway Entrance	Lump Sum	1,387.08	-0-	100%	1,387.08	
3	Gravel Pads	Lump Sum	732.07	-0-	100%	732.07	
4	Precast Concrete Channel Section	7 Each	1,089.54	-0-	7ea	7,626.78	
5	Furnish & Install Steel Access Pipe	Lump Sum	346.77	-0-	100%	346.77	
6 *	Liming, Fertilizing, Seeding & Mulching	Lump Sum	400.00		408.7%	~~1,634.83~~ 1625.33 RDB	
	Site Total					~~15,098.91~~ 15,089.41 RDB	100%
1	Mobilization	Lump Sum	9,400.00		100%	9,400.00	
	STEWARD SHAFT						
1	Remove Timber Cre Bin	Lump Sum	3,771.00	-0-	100%	3,771.00	
2	Backfill Pipe Gallery	400 Cubic Yd.	1,368.00	-0-		1,368.00	
3	Remove Steel Guides & Guide Supports	Lump Sum	1,888.00	-0-	100%	1,888.00	
4	Remove Miscellaneous Structures	Lump Sum	1,888.00	-0-	100%	1,888.00	
5	Gravel Pads	Lump Sum	929.00	-0-	100%	929.00	
6	Precast Concrete Channel Section	8 Each	1,090.00	-0-	8ea	8,720.00	
	Site Total					18,564.00	100%

52,780.81 RDB

Page Total - ~~52,79[illegible]~~

* See Attach Backup.

PROGRESS ESTIMATE NO. #5 Semi-final

PROJECT: A/E 86-46-126 FROM: Sept 16, 1987 Page 3 Of 5

PROJECT NAME: Butte Shaft - Phase V TO: Oct 26, 1987

ITEM NO.	DESCRIPTION	ESTIMATED PLAN QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF ESTIMATED QUANTITY COMPLETED
	LITTLE MINA SHAFT AND WASTE DUMP						
1	Remove Waste Dump	92,000 Cubic Yd	1.25	-0-	174,020.4cy	217,525.^{50}	
2	Furnish & Apply Top Soil	1,000 Cubic Yd.	3.35	-0-	23,472cy	78,631.^{20}	
3	Backfill Shafts	800 Cubic Yd.	1.16	-0-	-0-	-0-	
4	Provide Water	250,000 Gal.	0.015	-0-	-0-	-0-	
5	Fence Relocation	820 l.f.	5.72	-0-	1,073 l.f.	6,137.^{56}	
6	[illegible]ing & Cleanup	4.6 Acre	69.60	-0-	8.78 Acre	611.^{09}	
7	Gravel Pads	Lump Sum	951.69	-0-	100%	951.^{69}	
8	Precast Concrete Channel Section	10 Each	1,089.54	-0-	10ea	10,895.^{40}	
9	Lime Veneer 3829.^{45}tons @ .75% = 2,872.^{05}tons × 2,000lbs = 5,744,175	300,000 lbs.	0.0154	-0-	5,744,175 lbs	88,460.^{30}	
10	Construct Riprapped Channel	585 l.f.	9.25	-0-	995 l.f.	9,203.^{75}	
11	Liming	156,000 lbs.	0.05	16,900 lbs	37,600 ~~16,900lbs~~	~~845.^{00}~~ 1880.^{00} RDB	
12	Mulching 8.36 ac × 3000 lb/ac × \$0.12/lb = \$3009.^{60} RDB	13,300 lbs.	0.12	25,080 ~~26,340 lbs~~	25,080 ~~26,340 lbs~~	~~3,160.^{80}~~ 3009.^{60} RDB	
13	Fertilizing 8.36 × 308 × \$0.75 = \$1931.^{16} RDB	1,420 lbs.	0.75	2,574.88 ~~2,704.24lbs~~	2,574.88 ~~2,704.24lbs~~	~~2,028.^{18}~~ 1931.^{16} RDB	
14	Seeding 8.36 × 20 × \$9.^{90} = 1655.^{28} RDB	92 lbs.	9.90	175.60 lbs	175.60 lbs	~~1,738.^{44}~~ 1655.^{28} RDB	
15	Install Catch Basin & RCP Outlet	Lump Sum	1,290.00	-0-	100%	1,290.^{00}	
	Site Total					~~421,478.91~~ 422,182.^{53} RDB	100%

422,182.^{53} RDB

P. Total - 421,478.^{91}

PROGRESS ESTIMATE NO. #5 Semi-final

PROJECT: A/E 86-46-126
PROJECT NAME: Butte Shaft - Phase V

FROM: Sept 16, 1987
TO: Oct 26, 1987

Page 4 Of 5

ITEM NO.	DESCRIPTION	ESTIMATED PLAN QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF ESTIMATED QUANTITY COMPLETED
	MOUNTAIN CON #2 SHAFT AND WASTE DUMP						
1	Remove Waste Dump	6,600 Cubic Yd	1.30	-0-	8,258 cy	10,735.40	
2	Furnish and Apply Topsoil	610 Cubic Yd.	2.31	-0-	2,120 cy	4,897.20	
3	Grading and Cleanup	0.8 Acre	192.65	-0-	.75 Acre	144.49	
4	Gravel Pads	Lump Sum	924.72	-0-	100%	924.72	
5	Precast Concrete Channel Sections	10 Each	1,089.54	-0-	10 ea	10,895.40	
6	Lime Veneer 288.96 Tons @ .75 = 216.72 Tons × 2,000 lbs = 433,440 lbs	180,000 lbs.	0.0154	-0-	433,440 lbs	6,674.98	
7	Construct Riprapped Channel	225 l.f.	8.90	-0-	442 l.f.	3,933.80	
8	Liming	20,000 lbs.	0.05	-0-	-0-	N/C	
9	Mulching	2,400 lbs.	0.12	2,250 lbs	2,250 lbs	270.00	
10	Fertilizer	247 lbs.	0.75	231.0 lbs	231.0 lbs	173.25	
11	Seeding	16 lbs.	9.90	15 lbs	15 lbs	148.50	
	Site Total					38,797.74	100%
	ALICE PIT REFENCING						
1	Replace & Repair Chainlink Fence	Lump Sum	10,765.00	-0-	100%	10,765.00	100%
	BELLE OF BUTTE SHAFT						
1	Gravel Pads	Lump Sum	809.13	-0-	100%	809.13	
2	Precast Concrete Channel Section	10 Each	1,190.58	-0-	10 ea	11,905.80	
3 *	Liming, Fertilizing, Seeding & Mulching	Lump Sum	1,590.00	-0-	100%	~~2,862.00~~ 1590.00 RDB	
	Site Total					~~15,576.93~~	100%

14,304.93 RDB

* See attached

Page Total = ~~65,139.67~~ 63,867.67 RDB
Total Contract = ~~767,959.29~~ 767,881.41 RDB

PROGRESS ESTIMATE NO. 5 Semi-Final

PROJECT: A/E 86-46-126
PROJECT NAME: Butte Shaft - Phase V

FROM: Sept 16, 1987
TO: Oct. 26, 1987

Page 5 Of 5

ITEM NO.	DESCRIPTION	ESTIMATED PLAN QUANTITY	UNIT BID PRICE	UNITS OF WORK COMPLETED THIS REQUEST	UNITS OF WORK COMPLETED TO DATE	TOTAL COST OF COMPLETED WORK	% OF ESTIMATED QUANTITY COMPLETED
✓ #1	E.W.O. - Little Mina Dump Clean-up				100%	840.00	100%
✓ #2	E.W.O. - Work delay on Steward Shaft					N/C	
✓ #3	E.W.O. - Concrete Removal Belmont Shaft					1,407.94	100%
✓ #4	E.W.O. - Construct Fabric Reinforced Earthwall - Belmont Shaft					13,132.67	100%
✓ #5	E.W.O. - Revised excavation Little Mina East & Misc. work					76,195.27	100%
✓ #6	E.W.O. - additional work West Gray Rock, Mt Con #1, & Clear Grit					9,225.79	100%
✓ #7	E.W.O. - Backfill 3 recently opened Shafts					3,053.00	100%
✓ #8	E.W.O. - Provide additional runoff control from reclaimed mine site (Little Mina storm sewer)					15,534.62	100%
✓ #9	E.W.O. - Complete additional at Steward, West Gagnon, West Gray Rock					105,770.02	100%
✓ #10	EWO - Misc. work					6,721.20	100%
					Total	231,880.51	

Contract Total = $ ~~767,959.29~~ 767,381.41 RDB
EWO Total = 231,880.51
Total $ ~~999,839.80~~ 999,261.92 RDB

A/E 86-46-126	Butte Shaft V	EWO #1

April 24, 1987 - Rework dump area as required by engr.

Equipment
2.) D-8 Cat 8hr @ 105^{00} = 840^{00}

June 1, 1987 - Additional work to stop material from going over the side into the Berkeley Pit.

Equipment
2.) D-8 Cat 4hr @ 105^{00} = 420^{00}

1,260^{00}

RECEIVED W.V
MAY 0 6 1987
STATE LANDS

Rec'd from
Dave Piperon
10/13/87

SECTION II

2.11 WORK DIRECTIVE CHANGE

No. 2

PROJECT: Butte Shafts Reclamation, Phase V, Silver Bow County

DATE OF ISSUANCE: April 27, 1987

OWNER: (Name, Address)
Montana Department of State Lands
Capitol Station
Helena, Montana 59620

CONTRACTOR:
West Valley Construction Company, Inc.
P.O. Box 588
Anaconda, MT 59711

OWNER's Project No. Mont A/E 86-46-126

ENGINEER: HYDROMETRICS

CONTRACT FOR: $465,787.36

ENGINEER's Project No. ----

You are directed to proceed promptly with the following change(s):

Description: Delay all work on Steward Shaft until notified in writing by the Engineer

Purpose of Work Directive Change: To allow detailed assessment of the proposed project by the State Historic Preservation Officer.

Attachments: (list documents supporting change)

If a claim is made that the above change(s) have affected Contract Price or Contract Time, any claim for a Change Order based thereon will involve one of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:

☐ Time and materials
☐ Unit prices
☐ Cost plus fixed fee
☐ Other ________

Estimated increase (decrease) in Contract Price: $ 0. If the change involves an increase, the estimated amount is not to be exceeded without further authorization.

Method of determining change in Contract Time:

☐ Contractor's records
☐ Engineer's records
☐ Other ________

Estimated increase (decrease) in Contract Time: 0 days. If the change involves an increase, the estimated time is not to be exceeded without further authorization.

RECOMMENDED:
by HYDROMETRICS
Engineer

AUTHORIZED:
by
Owner

ACCEPTED:
by
Contractor

Required

A.) Remove mine car's from the 40' Level & Stockpile at Shaft. Also any other old equipment that may have historical value.

B.) Remove Timber crib on the Area out side of the beam seat area. Remove concrete roof from old electric switch room. Backfill all Area to support crane during the beam erection.

I.) Remove mine car's

Labor:
4/man @ 25^{00}/hr

Equipment
15Ton Pettibone Crane @ 48^{00}

Sub-T = 73^{00}/hr

Production:
3hr × 73^{00}/hr = 219^{00}

II.) Remove shaft crib & Backfill Area.

a.) Remove Timber Crib
Labor
4/man @ 25^{00}/hr

Equipment
690 J.D. Backhoe @ 72^{00}/hr
966 Loader/forks @ 65^{00}/hr

Sub-T 162^{00}

Production:
2hr × 162^{00} = 324^{00}

b.) Haul To Disposal Site

Labor:
4/man @ 25^{00}/hr

Equipment
966 Loader/Forks @ 65^{00}
12cy Dump Tr @ 50^{00}

Sub-T 140^{00}

ont.

posal Site

:

" × 140.00/hr = 280.00

Concrete Roof for Electric Switch Room

abor:
4/man @ 25.00/hr

Equipment
690 J.D. Backhoe @ 72.00/hr
Sub-T = 97.00

Production
3hr × 97.00 = 291.00

d.) Backfill Area

Labor 4/man @ 25.00/hr

Equipment
966 Loader @ 65.00
12cy Dump Tr @ 50.00
Sub-T 140.00/hr

1114

Production
2hr × 140.00 = 280.00

Total 1394.00
Bond Cost 1% 13.94
1407.94

A/E 86-46-126	Belmont Shaft	Extra Work Order # 4

Required: Install reinforced Earth wall to protect shaft on back side (Area under Ore Bins)

6-24-87 – Cut bracing to ore bin to allow entrance to Area to be backfilled. Clean Area to be cut with jack hammer

a.) Welding & Cutting tr.	5hr	@	35.00/hr =	175.00		
b.) Pettibone Crane	5hr	@	48.00 =	240.00		
			Sub-T =	415.00		

6-25-87 – jack hammer thru concrete Roof to 40' Level room. Cut filter blanket to size & shape. Start on drop sheet for backfill materials

a.) Welding & Cutting Truck	8hr	@	35.00/hr =	280.00	
b.) 150PSI Compressor/Tools	8hr	@	32.00/hr =	256.00	
c.) Pettibone Crane	4hr	@	48.00/hr =	192.00	
d.) Walden Loader	2hr	@	28.00/hr =	56.00	
			Sub-T =	784.00	1,199.00

6-26-87 – Haul extra turn sheet to cover hole of roof of work area. Place one lift of compacted earth wall as outlined on work order.

a.) Welder & Cutting truck	8hr	@	35.00/hr =	280.00	
b.) Pettibone Crane	8hr	@	48.00/hr =	384.00	
c.) Walden Loader	8hr	@	28.00/hr =	224.00	
d.) 12cy Dump Tr. #5	2hr	@	50.00/hr =	100.00	
e.) 988B Loader	1hr	@	95.00/hr =	95.00	
			Sub-T =	1,083.00	2,282.00

6-29-87 – Haul & place backfill material in reinforced earth wall

a.) Pettibone Crane	8hr	@	48.00/hr =	384.00	
b.) Walden Loader	8hr	@	28.00 =	224.00	
c.) 12cy Dump Tr. #5	2hr	@	50.00 =	100.00	
d.) 988B Loader	1hr	@	95.00 =	95.00	
e.) J type Compactor	8hr	@	19.00 =	152.00	
			Sub-T =	955.00	3,237.00

6-30-87 Haul & place Compacted backfill materials in reinforced earth wall

a.) Pettibone Crane	8hr	@	48.00 =	384.00	
b.) Walden Loader	8hr	@	28.00 =	224.00	
c.) 12cy Dump Tr #5	3hr	@	50.00 =	150.00	
d.) 988B Loader	2hr	@	95.00 =	190.00	
e.) J Type Compactor	8hr	@	19.00 =	152.00	
			Sub-T =	1,100.00	4,337.00

NATIONAL 42.389 200 SHEETS

7-1-87 Haul & place compacted backfill materials in reinforced Earth wall

a.	Pettibone Crane	8hr	@	48.00	=	384.00	
b.	Waldow Loader	8hr	@	28.00	=	224.00	
c.	12cy Dump Tr #5	4hr	@	50.00	=	200.00	
d.)	988B Loader	2hr	@	95.00	=	190.00	
e.)	J Type Compactor	8hr	@	19.00	=	152.00	
				Sub-T	=	1150.00	5,987.00

7-2-87 Haul & place compacted backfill materials in reinforced Earth wall

a.)	Pettibone Crane	8hr	@	48.00	=	384.00	
b.)	Waldow Loader	8hr	@	28.00	=	224.00	
c.)	12cy Dump Tr.	2hr	@	50.00	=	100.00	
d.)	988B Loader	1hr	@	95.00	=	95.00	
e.)	J Type Compactor	8hr	@	19.00	=	152.00	
				Sub-T	=	955.00	6,942.00

7-7-87 Haul & Place compacted backfill materials in the reinforced Earthwall

a.)	Pettibone Crane	5hr	@	48.00/hr	=	240.00	
b.)	Waldow Loader	8hr	@	28.00/hr	=	224.00	
c.)	Welder/Cutting Tr.	3hr	@	35.00/hr	=	105.00	
d.)	12cy Dump Tr	2hr	@	50.00/hr	=	100.00	
e.)	988B Loader	1hr	@	95.00/hr	=	95.00	
				Sub-T	=	764.00	7,206.00

7-8-87 Haul & place backfill material into old tunnel area that we have excavated out.

a.)	410 John Deere Backhoe/Loader	8hr	@	50.00	=	400.00	
b.)	12cy Dump Tr. #5	8hr	@	50.00	=	400.00	
c.)	988B Loader	3hr	@	95.00	=	285.00	
d.)	Welding & Cutting Tr.	4hr	@	35.00	=	140.00	
e.)	Waldow Loader	4hr	@	28.00	=	112.00	
				Sub-T		1,337.00	8,543.00

8,543.0

7-9-87 Cleanup Backfilled Area's, Completed replacement of the bracing on leg of ore bin's.

a.) Welding/Cutting Tr.	8hr	@	35.00/hr	=	280.00
b. Waldon Loader	6hr	@	28.00/hr	=	168.00
c.) Pettibone Crane	4hr	@	48.00/hr	=	192.00
d.) 12cy Dump Tr. #5	3hr	@	50.00/hr	=	150.00
e.) 988 Cat Loader	1hr	@	95.00/hr	=	95.00
			Sub-T	=	885.00

$9,428.00

7-17-87 Haul small Gage Railroad rail from Mt Con #2 & place on Concrete Cap Girder. Place ore Car in line and weld to Rail

a) Pettibone Crane	2½	@	48.00	=	120.00
b.) Welding Tr/Cutting	2½	@	35.00	=	87.50
			Sub-T	=	207.50

9,635.50

7-20-87 Completed welding ore Car's to railroad rail & Replaced fine material washed away due to heavy Rain's.

a.) Welding Tr./Cutting Equip	3hr	@	35.00	=	105.00
b.) Waldon Loader	3hr	@	28.00	=	84.00
c.) Pettibone Crane	3hr	@	48.00	=	144.00
			Sub-T		333.00

9,968.50

Materials:

Invoice #		Amount
10047		1,670.68
10009		624.00
10-402571		88.97
07-222707		40.14
69644		282.66
000427		45.00
	Sub-T	2,751.45
	15% Surcharge	412.72
		3,164.17

Total: 13,132.67

EWO # 5. Summary;

A.) Little Mina East Waste Dump

51,153cy Less 7.4%
47,367.68 @ 1.25 = 59,209.60

b.) Remove Concrete Block Belle of Butte

Remove Concrete	1,359.54	
extra Beam	1,271.22	
	2,630.76	

Need;
Backup - Dave

c.) Mountain Con. - Removal of Timber & Concrete for deck Area. $3,193.15

d.) Need Additional Seeding at Belmont Shaft = $1,234.83

e.) Seeding at Belle of Butte = $1,272.00

Total : 67,540.34

Note;
Ck Revized Quantity for Item "A"

A.) Little Mina East
Waste Dump = 56,361.60cy @ 1.25 = 70,452.00

230,382 Comp. Quantity
- 56,361 #5 EWO
174,020.4 Estimate Item

B.) Remove Concrete Block Bell of Butte

Remove Concrete	=	1,359.54
extra Beam	=	1,190.58
		2,550.12

C.) Remove Timber Mt Con #1 = 3,193.15

d.) Seeding - Included in Contract Item's
Belmont
Belle of Butte

Revized Total $ 76,195.27

42 381 50 SHEETS 5 SQ
42 382 100 SHEETS 5 SQ
42 389 200 SHEETS 5 SQ
NATIONAL

EW - #6

Estimate #4

1.) West Gray Rock - additional Grading

7-27-87 8hr @105^{00} = 840^{00} ←

2.) Clear Grit Site - Correct runoff Control

8hr Backhoe @50^{00}

2hr 12cy Dump Tr@ 50^{00} = 500^{00} ←

3.) Correct Drainage Mt Con #2 & Little Mina

7-22-87 → 7-24-87 = 1,854.^{79} ←

927.^{39} Mtn Con #2

927^{40} Little Mina

4.) Mt Con #1 - Reinstall Headframe Guides

Letter of 7-18-87 = 1,826.^{00} ←

5.) Josephine Shaft - Backfill

7-28-87 = 960^{00} ←

Item omitted from Summary:

Dave Letter of 7-18-87 Clean-up Mt Con #1 - = 2,695.^{00}

7-18-87 Drain Ditch Mt Con #1 to Little Mina = 550^{00}

Total 9,225.^{79}

↗ Included Mtn Con #1

NATIONAL 42-381 50 SHEETS 5 SQ
42-382 100 SHEETS 5 SQ
42-389 200 SHEETS 5 SQ

EWO #7		Est #4
Backfill Shafts:		
a.) West Gray Rock - West		1,012.00
b.) Little Minie - East		1,421.00
c.) Humbolt shaft		620.00
		3,053.00

NATIONAL 42-381 50 SHEETS 42-382 100 SHEETS 42-389 200 SHEETS

EWO #8 | Progress Est #4

A.) Drainage System - Little Main thru Belle St.

8-4-87 → 8-18-87 = 15,534$^{\underline{62}}$ ←

NATIONAL 42-381 50 SHEETS 42-382 100 SHEETS 42-389 200 SHEETS

A/E 86-46-126 | EWO #9 | Summary Sheet.

A.) Steward Mine Site	19,756.65
B.) West Gray Rock Mine Site	40,519.16
C.) West Gagnon Mine Site	33,595.01
d.) Little Mina Mine Site.	11,899.20
Total EWO.	105,770.02

NATIONAL 42-381 50 SHEETS 5 SQ
42-382 100 SHEETS 5 SQ
42-389 200 SHEETS 5 SQ

SUMMARY SHEET

A/E 86-46-126 | Butte Shaft V | EWO #10

1.) Msc. work Required	967.00	799.00	West Gray Rock
		168.00	Belmont
2.) Mt-Con #2 - Add cap girder	2,179.08		
3.) Diamond Mine Backfill	315.00	- Diamond	
4.) Patch Cap Girder lifting eye	1,980.12	- all sites	
5.) Additional Msc. fencing	480.00	350.00	Little Mina
		45.00	West Gray Rock
		85.00	Mtn Con #1
Sub-T =	5,921.20		
6.) Seeding & etc Steward	800.00		
Total	6,721.20		

NATIONAL 42-381 50 SHEETS 5 SQ
42-382 100 SHEETS 5 SQ
42-389 200 SHEETS 5 SQ

Project Inspector's Daily Log

Globe-Weis
91

Little Mina

Truck counT

	12cy	16cy	23cy H.P.		ac.Tot
/30/87	24			288	
/1/87	41			492	
5/4/87	122	122		3416	
/5/87	128	121	18	3886	8082
5/6/87	176	102		3744	
/7/87	94	30	84	3540	
8/87	185	64		3244	
5/11/87	188	63		3264	21874
/87	149	61	35	3615	
/87	182	60	36	3972	
/87	165	53	54	4070	
/87	133	47	45	3383	
/18/87	99	46	83	3833	
/87	96	47	93	4043	
0/87	59	45	89	3507	
5/21/87	44	20	37	1699	49996 ✓
7/87	153	68		3400	
/28/87	115		23	3508	
9/87	76	38	75	3245	
1/87	74	53	106	4174	
6/2/87	77	39	81	3411	67734 ✓
3/87	77	54	102	4134	
4/87	74	47	96	3868	
6/5/87	55	28	41	2051	
/87	179	62	58	4520	

	12cy	16cy	23cy(HP)		
6/9/87	80	34	63	2953	
6/10/87	44	22	44	1892	
6/11/87	43	17	36	1616	19
/12/87	128	52	94	4530	
/15/87	98	55	64	3528	96826
6/16/87	115	53	81	4091	
/17/87	127	51	84	4272	
/18/87	118	59	69	3947	
/19/87	86	55	102	4558	113,694 ✓
/22/87	92	46	97	4071	
6/23/87	88	48	101	4147	
/24/77	48	52	105	3839	
/2587	48	53	114	4046	
6/26/87	49	51	101	3727	
/29/87	182	68		3272	
6/30/87	172	58		3092	
7/1/87	116	63	51	3803	
/2/87	108	64	61	3723	147,414 ✓
7/7/87	108	62	62	3830	
/8/87	122	59	58	3742	
7/9/87	119	59	60	3752	
/10/87	108	56	57	3503	
/13/87	118	60	60	3776	
7/14/87	117	60	61	3707	
/15/87	127	59	63	3917	
7/16/87	119	63	61	3839	177500

7/17/87	116	60	59	3709	
/20/87	115	59	60	3704	184913 13326
7/21/87	96	49	50	3086	
7/23/87	20			240	188,23.9

177500
3709
3704

184913
51153

236,066
[illegible]

144,

188,239
51153

392

Mt. Con #3: Cuppa Little Mina

	12cy	16cy	23cy		
10/87	52	35	64	2776	
11/87	106	41	39	2825	
12/87	[illegible]		58	1334	
5/87			189	4347	11282
16/87			134	3094	
7/87			182	4186	
8/87			195	4485	
6/19/87			192	4416	27463✓
2/87			191	4393	
6/23/87			214	4922	
24/87			215	4945	
25/87			212	4876	
6/26/87	ard		198	4554	51,153✓

West Gray Rock
Truck count

	12.C.Y	16. C.Y	C.Y. Daily	Estimates C.Y. Acc. TOT
4/23/87	72	144.	3167	
4/24/87	117	126	3420	
4/27/87	130	144	3864	
4/28/87	133	136	3772	14223
4/29/87	132	140	3824	
4/30/87	135	139	3844	
5/1/87	136	141	3888	25779✓
	23 cy H. Pac.	16 cy		
5/4/87	180		140	
5/5/87	186		4278	34197✓
5/6/87	153		3519	
5/7/87	96	28	3412	
5/8/87	188		4324	
5/11/87	194		4462	49914✓
5/12/87	193		4439	
5/13/87	199		4577	
5/14/87	192		4416	
5/15/87	192		4416	
5/18/87	157		3611	
5/19/87	172		3956	
5/20/87	162		3726	
5/21/87	71		1633	80,688✓
5/27/87	154		3542	
5/28/87	150		3450	

```
      0.*
      0.*
      0.*
     *0.*
3167.00 +
3420.00 +
3864.00 +
3772.00 +
3824.00 +
3844.00 +
3888.00 +
4140.00 +
4278.00 +
3519.00 +
3412.00 +
4324.00 +
4462.00 +
4439.00 +
4577.00 +
4416.00 +
4416.00 +
3611.00 +
```

West Gray Rock Cont'd

	12CY	16CY	23CY		acTotal
5/29/87			170	3910	
/30/87			166	3818	
6/1/87			161	3703	
/2/87			177	4071	103182
/3/87			162	3726	
6/4/87			154	3649	
/5/87			177	4071	
6/8/87			181	4163	
/9/87			177	4071	
/10/87			182	4186	
6/11/87			173	3979	
/12/87			128	2944	133,971 ✓
6/15/87			—	—	
6/16/87			63	1449	135,420 ✓

Mt Con #2 Truck count

	12 cy	16 cy	23 c.y		ac. Total
5/29/87	18	9	11	613	
/30/87	76	46	89	3695	
6/2/87	19	10	19	825	5133
6/5/87	36	24	50	1966	6099
/8/87	49	F. 13	34	2578	8677

Anselmo Sand pass	2283 ft^2	.05 acres
Belle of Butte	7878 ft^2	.18 acres
Belmont	11,690 ft^2	.27 acres
Steward		.10 acres.

Lime Rock

	Loads	Tons	
2/48	3	86.99	SW. corner Little Mina
7/23	3	85.00	" " " "
4	4	114.15	" " " "
27	10	288.96	Mt con #2 ~~North Slope Little Mina (110 which is about~~
7/28	11	323.14	" " " "
29	12	367.30	" " " "
7/30	9	273.91	Mt. Con #3
31/87	12	318.83	Little Mina North slope
/87	12	323.81	" " " "
8/4/87	12	350.96	" " " "
5/87	12	355.40	" " " "
/87	12	354.32	" " " "
8/7/87	8	252.52	Mt - Con #3 "
0/87	12	354.88	" " "
8/11/87	3	85.25	" " "
	135	3935.42	(minus 288.96 to Mt Con 2) = 3646.46)
9/11/87	6	182.99	182.99
			382945

~~3934.77~~ (Joe)

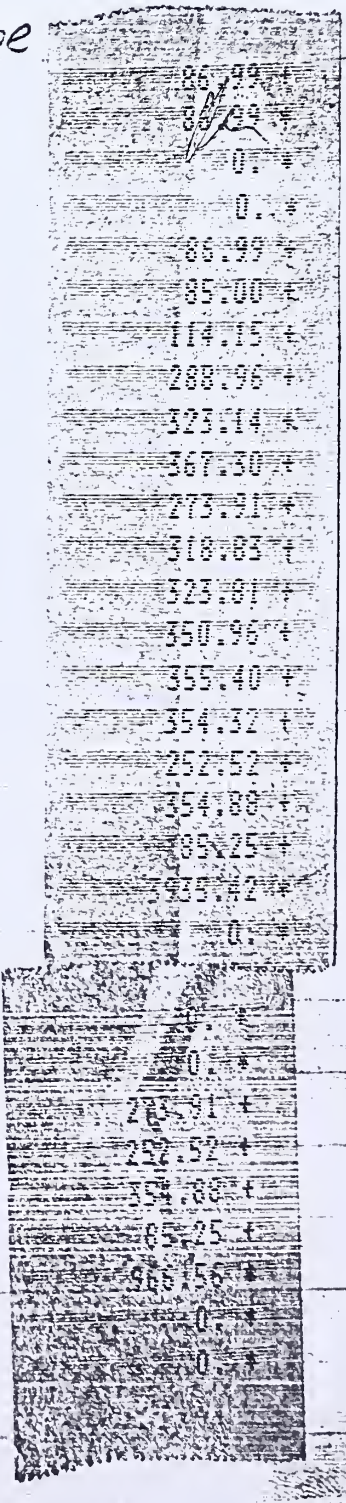
↑ True Total Little Mina

3935.42
966.56
296886
110
285886

Mt Con #3	966.56
Little Mina	-2858.86
Mt con #2	110.00
	3935.42 Total lime

See new sheet Recap

382542



86.99 +
86.99 +
0. +
0. +
86.99 +
85.00 +
114.15 +
288.96 +
323.14 +
367.30 +
273.91 +
318.83 +
323.81 +
350.96 +
355.40 +
354.32 +
252.52 +
354.88 +
85.25 +
3935.42 *
0. +
0. +
273.91 +
252.52 +
354.88 +
85.25 +
966.56 *
0. +
0. +

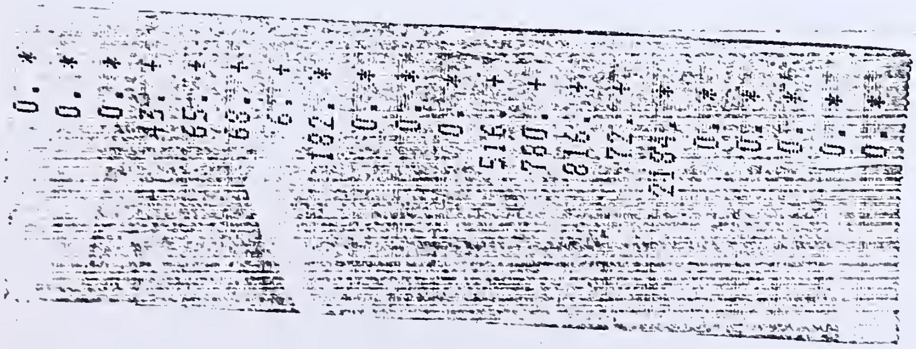
=

Wet Gognon Lime

	20 cy	Tons.		
8/20/87	15	325.51	{980C Loader 8hrs @ 95.00/hr =	760.00
			~~D-6~~ ~~8hrs @ 70.00/hr~~ =	
/21/87	15	316.27	{980C Loader 8hrs @ 95.00	
			{1 hr Transport D6 65.00/hr =	65.00
8/24/87	9	195.26	D-6 8hrs 70.00 hr =	
	39	~~835.97~~		
		837.05		

Wet Gognon Soil

4/87	43 - 12cy	516 cy	
5/87	65 - 12cy	780 cy	980 Loader 8hrs.
/26/87	68 - 12cy	816 cy	980 Loader 8hrs.
27/87	6 - 12cy	72 cy	{8hrs Laborer @ {980 Loader 8hrs.
8/28/87			Water Truck 8hrs @ 52.00/hr =
	182	2184	



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0.*
0.*
0.*
43.+
65.+
68.+
6.+
182.*
0.*
0.*
0.*
516.+
780.+
816.+
72.+
2184.*
0.*
0.*
0.*
0.*
0.*
```

Mt Con #2 Topsoil

	20 cy	
8/18/87	42	840
/19/87	64	1280
	106	2120 C. yards

Lime W. Gray Rock

/8/87	6 (30T)	
9/9/87	8 "	
/10/87	12	
/11/87	1	
	27	806.18 ✓

mt con #3 Lime

/11/87	6 (30T)	182.99

Top Soil haulage

W. Gray Rock

	12CY	
7/28/48	31	372
29	37	444
30	36	432
31	27	324
	131	1572 c. yards

See Next Page

Little Mi

	12CY		20CY	
31	34	408		
3/87	67	804		
4/87	71	852		
8/5/87	70	840		
6/87	78	936		
8/7/87	70	840		
8/10/87	51	612		
11/87			48	960
8/12/87			61	1220
13/87			67	1340
8/14/87			64	1280
8/17/84			63	1260
18/84				
	441		303	11352 cu yards.

Mt Con #3

11/87	48	576		
8/ 14/87	44	528		
13/87	47	564		
8/14/87	47	564		
15/87	44	528		
8/87	63	756		
8/19/87	64	768	357	4284 C. yards

```
31.00 +
37.00 +
36.00 +
27.00 +
131.00 *
0. *
372.00 +
444.00 +
432.00 +
324.00 +
1572.00 *
0. *
0. *
```

```
0. *
0. *
0. *
0. *
48.00 +
44.00 +
47.00 +
47.00 +
44.00 +
63.00 +
64.00 +
357.00 *
0. *
0. *
0. *
576.00 +
528.00 +
564.00 +
564.00 +
528.00 +
756.00 +
768.00 +
936.00 +
840.00 +
612.00 +
960.00 +
1220.00 +
1340.00 +
1280.00 +
1260.00 +
11352.00 *
0. *
0. *
```

Mt Con #3 Top Soil contd

	12CY	
8/27/87	59 –	708
28/87	44 –	528
9/16/87	58	696
17/87	46	552
9/18/87	46	552
9/21/87	43	516
	653	7836
	357 previous pg	4284 previous page
	1010	11120

```
 0. *
 0. *
 0. *
 0. *
48. +
44. +
47. +
47. +
44. +
63. +
64. +
59. +
44. +
58. +
46. +
[illegible]
[illegible]
[illegible]
 0. *
 0. *
 0. *
```

```
   0. *
 576. +
 528. +
 564. +
 564. +
 528. +
 756. +
 768. +
 708. +
 528. +
 696. +
 552. +
 552. +
 516. +
7836. *
   0. *
   0. *
```

W. Gray Rock Top Soil

	12CY	CY
/8/87	57	684
9/9/87	64	768
/10/87	65	780
11/87	69	828
14	59	708
15	62	744
	376	4512
	131 from previous page	1572 from ~~front~~ previous page
	507	6084

```
 57. +
 64. +
 65. +
 69. +
 59. +
 62. +
376. *
  0. *
  0. *
```

```
 684. +
 768. +
 780. +
 828. +
 708. +
 744. +
4512. *
   0. *
   0. *
   0. *
```

4/20/87

M Grizzley Fence co

Taking out fence at Little Mina

W.V. cutting steam Pipe-line which on trestle south of W. Gray Rock

Talked with Joe.

P.M. Grizzley done fencing all rolled (think about 900 feet)(Measure)

Are cutting posts off – OK'd

1/87 –

AM
Grizzley Fence Co – Took down fence on South side of W. Gray Rock

W. Valley constructing road at W. Grayrock – pulling the rail finished loading out steampipe – in accordance with recommendation from Solaris pipe thrown in dump & will be buried.

P.M – W. Valley pulling rail. Grizzley Fence have completed fence removal.

Measured items

4/22/87 – Fence at Mt. Con #2 – Chainlink removed – 250 south side of Mt Con #2

Fence at Little Mina – 930' removed.

Fence at W. Gray Rock – 460' removed

Track ~~Rail~~ removed at W. Gray Rock 493' removed (That is 2 rails)

8:00 AM Finishing road to W. Gray rock.

Started road to Little Mina (Had approval from Bravico to cut Box & 14" pipe)

10:30 – 12:30 with KXLF TV crew. Took numerous pictures at W. Gray Rock & Diamond.

P.M Road nearly finished into Little Mina.

②

4/23/87

AM started hauling at W. Gray Rock
{ 1- 12 CY Truck
{ 2 - 20 CY Trucks
1 - D-8 Dozer 1 - D7 dozer
1- 980 CAT Loader.

72
12
864
144
16
864
144
2304
864
3168

One dozer pushing muck at disposal site
one dozer pushing to loader
Hauled 72 - 12 cy Trucks & 144 - 16 cy Trucks } 72 - 12 cy
144 16 cy
- 3168 C.Y extra

PM Loading at W. Gray Rock all OK.
Looked at Badger shaft
Located arctic shaft. 8 hours work.
Trucks - Loaded —

4/24/87 AM - Loading at W. Gray Rock
4 Trucks (2-12 cy + 2 20 cy.) 1 Water Truck.
1 - D8 - 1 - 980 Loader. 1 - D7 dozer
420 are wetting down road to keep dust down.
Dozer pushing over dump is also wrecking the
Ventilation housing.
12- 621 53 64 62 6' 10:00 met with Bruin and Mendie at the Steward

PM.

all 4 trucks operating
Surface portion of Fan housing demolished - Concrete will be hauled to
the Diamond debris dump
Put West valley lock on Belmont gate - they will start
on the Belmont monday.
Note Joe Jordan told that the Steward may be held up
for three weeks - he was disappointed said that it will hold
him up some but that he will cooperate with us.

4/24/87 cont'd

Jordan had planned to start on the Belmont then Steward then Mt. Con. This postponement of the Steward will hold and cost the project.

Braico – Mundie meeting

Will meet again next week. Some solution ~~of~~ the upper super structure can remain but the lower wooden structure must be removed in order to construct the concrete cover – other alternative leave the Steward uncovered – some elses liability.

Hauled 117 – 12cy } 3420 cy estimate   8 hours work
126 – 16cy

4/25, 26/87 No work

4/27/87.

AM – 4 Trucks Hauling at W. Gray rock

Superstructure at W. Gray Rock Fan housing all dozed down.

Marked a reference for the location of the shaft.

Told the Dozer operator to leave the hoist engine base as a marker for the shaft. (It can be buried at a later date)

Reference stakes at the Little Mina for survey after dump is removed.

Reviewed the Belmont shaft area with Don Davis.

P.M. Met with Don Davis at Belmont – got lights and looked over the 40 foot level – needs more attention than was recommended by Braico. Called Braico & he will meet me in Butte Tuesday.

Hauling at West Gray Rock Proceeding OK.

4/27/87 Cont'd

Dump almost completed along wall on South side of Diamond.

16cy – 144
12cy – 130 > 3864 C.Y estimate

4/28/87

AM Cut north Belmont legs of stairway to make room for concrete beam

Pulling string of man decks from shaft.

Cut loose bottom one & let down shaft to bulkhead

Met Bravio and reviewed the 40 level.

Took Bravio around the construction site.

P.M. Belmont

Cut bottom deck, of the string of 4 man cages loose from the string and dropped it to the 40 level bulkhead.

The other 3 cages were cut from each other, the sixth sheave cut off and the cages pulled from the shaft one at a time. Cages all out by end of the shift.

West Gray Rock

All proceeding well 4 trucks hauling

Told Joe to level off dump at Diamond Alan also.

12 cy – 133 Trucks
16 cy – 136 Trucks > 3772 C.y estimate

4/29/87

Belmont -

Cager out of shaft.

Cutting guides and guide supports

Cautioned about fire in shaft. - Told Davis to make sure that he could get the Water Truck quickly

~~Sta~~ Paper reporter appeared — did not say much

West Gray Rock

all ok. the East portion of dump down to natural ground

P.M W. Gray Rock

Hauling all ok.

Belmont

Cut off guides & guide supports

started cleaning up

Looked at 40 level with Braico - Possibly a concrete wall against shaft on the 40 level & fill the level. Bob will look at design & Davis will give estimate of cost.

Early P.M, met with Ben Mundie & Marcella & Fred Quirk to examine the Steward, original & West Gray Rock.

additional 4 hrs for a total of 12 hrs. on Berkeley dump area - finished the job
change order

4/30/87

AM Belmont

Cleaned up around shaft

Lifted collar set from pipe compartment & manway.

Started on the collar set on the main shaft.

West Gray Rock.

Hauling with 4 trucks.

Dump ok.

Started loading on an upper lift.

Down to natural surface.

Little Mine

One truck one loader with one man cleaning up debris preparatory to starting on loading with HaulPacs monday.

P.M.

West Gray Rock

all ok.

Using plenty of water to hold down dust

Little Mine

Still one truck, one loader with one man

Using water to hold down dust.

Belmont.

Got steel for fixing back guides wrong size.

will weld in place Tomorrow.

5/1/87

AM Belmont – collar set stripped

Tying back Guider – doing good work.

AM W. Gray Rock.

East side of Waste dump down to natural ground dozed off – looks good.

Hauling with 4 Trucks Will have Haul Pass. Monday

P.M. Belmont welding tie-backs.

moved cages et al along West fence.

Little Mina

One truck & one loader – D-8 pushing down making ready for Haul Pass Monday

No real evidence of east shaft.

called Braino no work on design of wall as yet

Loader creating dump to Haul Road edge – slope 3 to 1

5/4/87 Little Mina

AM Started loading at the Little Mina

D-8 & D-7 cats & 980C loader.

2-12cy & 2-16cy Trucks

W. Gray Rock

988B Loader – D8 & D7 cats

5 WBCO Haul Pac Trucks.

Dozer opened a hole on south end of shaft – still covered appears to be a surface Bulkhead with old timbers piled on Top.

no work at the Belmont

5/4/87 cont'd

P.M. Little Mina OK

W. Gray Rock OK.

Belmont no work

Talked with Braico - OK to push old Diamond railroad platform out of the way for the disposal area.

5/5/87 AM

Little Mina

Hauling with 4 Trucks - sloping dump to edge of haul road at 2½ to 1.

Have dozed over shaft - Posts visible but no opening

4 trucks hauling 2@16cy & 2@12cy

W. Gray Rock

Hauling with 5 Trucks @23cy. (

Hole appeared in south edge of shaft - appears to be a double 3 inch surface Bulkhead - unable to tell if shaft is open below. Told Joe to not let the dozer walk over the shaft.

Belmont

not working this day.

P.M.

Little Mina

all OK.

W. Gray Rock - told some visitors with a passenger car to leave the area.

Met with Braico at noon at our office. Discussed the W. Coyun & Stewards.

5/6/87

AM West Gray Rock 4 Haul Pans working

all ok. inspected shaft - OK.

Dozer started to move old loading platform & rubble at toe of the dump. Joe told to push it out of the way so as to not be within the dump. Will take care of it without an extra.

Little Mina 4 Trucks working.

All ok. shaft opening still not exposed

Belmont

not working

PM West Gray Rock

988 - down for repair

Repaired by 3:00

Little Mina

Hauling - still can't see shaft.

5/7/87

A.M W. Grayrock

4 Trucks Hauling - OK.

Push dozer hit a tunnel. Entered the tunnel caved at a position which appears to be West and south of shaft. Told Dozer operator to continue working back on tunnel - is about 15-20' below collar elevation. Will Probably be cut completely out with Dump removal. Appears to have a station that will have to be removed.

Have started pushing the railroad docks out of the way of the disposal dump.

5/7/87 Cont'd

AM Little Mina

Found the Little Shaft. has a pair of 3' dia pipes accross the top. According to the Dozer operator (he had worked on the project) Oraunda tried to fill the shaft and it kept subsiding so they put the pipes accross the shaft.

4 Trucks hauling

Dump area OK. - very little Rubble

Belmont.

Finishing welding braces for guides

Measured side of 40 ft. level - phoned to Braico

PM -

W. Gray Rock

Broke universal on 988B - working with a

4 Truck - 2-12 cy - 2 16 cy. & 988B

2:30 Little Mina

Using 4 Haul paks & 980 C

All OK

Belmont

Hoisted eleven 7 cubic foot Mine cars from the 40 level Took about 4 hours extra time. Parked them at north end of head frame.

4 hours extra for hoisting cars

5/8/87

AM W. Gray Rock

Using 4 haul pans + 988A loader.

988B still down for repair.

~~Little~~ Have Taken Tunnel out to what appears to be a station on west side of Shaft.

-10:00 Little Mina

4 Truck & 980C

Shaft still not uncovered – old pipes still in place.

Belmont

Pulling Turnsheets uncovered a door to a concrete underground electric room. concrete walls. South wall south of north end of proposed concrete pad. Told Jordan & Dori that it will have to be filled. Also a small pipe gallery that connects to the East side of the electric room will be filled and compacted for beam support.

W. Grayrock Diamond, Little Mina

P.M – Janet Ore with me. – 1:00 – 3:00 to Stewart original, Belmont

W. Gray Rock

3:00 all ok.

Little Mina OK

Belmont.

Have Pulled turn sheets

openings under most of area. Will need filling.

Taken collar set from shaft - exposed Iron Beam

Wood real rotten

11/87

AM Belmont

Cleaning up old wood taken from shaft collar and under the turn sheets - exposed a tunnel to shaft. Will need to be filled.

Called Bratco - need letter about the option at Belmont.

Cleaning up with grapple hook on a 980

W. Gray Rock

Hauling. OK

Had work some more on the railroad loading docks.

Debris dumps all covered - looks good

Breaking top of concrete electric room with headache ball.

Breaking walls of concrete down to elevation only - will fill & compact the electric room. because the corner of the concrete beam rest on the fill.

W. Gray Rock - all ok.

4 Haul Pac running

Hoe moved more of the railroad platform.

Little Mina - OK - Hauling with 4 truck (2-16 & 2-12)

Belmont - Noon.

Loading old timber & hauling to N.E. Corner of Little Mina dumping area

P.M. Belmont

3 hrs Hoe breaking concrete - electric room

Cleaning up debris - will be ready for fill tomorrow

W. Gray Rock - OK - pushing railroad platform

Little Mina - OK

5/11/87 Cont'd

2hrs Taking Bryan - ?, Paul Anderson's assistant around the hill - Looked at the Venus, Goldsmith, Eveline, Rialto, Bentom, Green Mountain, Diamond W. Gray Rock, Pipeline.

5/12/87 - Belmont

AM Hauling debris & filling opening - much for fill from Little Mina. - Filling electric room so as to be able to place the crane when shaft covers are placed. also filling opening & compacting with Wacker the area for the northeast corner of pad.

Doris estimates extra work for front of shaft at $1400.00.

W. Gray Rock

all ok - 4 trucks hauling

Debris from railroad dock all piled & out of the way from the dump.

Little Mina

Looked at shaft location filled with granite rocks will catch again on next lift.

Mt. Con.

Will start tomorrow

5/12/87 Cont'd

Belmont

Opening pipe Trench on east side of shaft and filling.

Filled the pipe trench on the west side.

Completed fill in electric room.

Area smoothed & ready for gravel base.

W. Gray Rock

all OK

Little Mina

all OK.

Talked to Rob Zobriccia - con & will cut fence on old road from Main Street to the Con Shaft. Will lock.

5/13/87

AM Belmont

Compacting gravel for pad base – area all leveled for concrete pad.

Finished filling east pipe gallery.

Have left stairwell and housing until the 40 level wall is placed.

W. Gray Rock OK

Finished debris from railroad platform

Joe will see MRI about removing power pole for expansion of dump area – Line Dead.

Little Mina – OK

Slot down to natural surface

East slope OK at ± 2½ to 1

Jnt. Con

Approval granted by Premium Metal to cut West ~~for~~ fence for access to yard.

5/14/87. Met Brians @ 7:30 @ Mt. Con.

AM Belmont - West pipe tunnel filled

East pipe tunnel filled but not "dressed up":

Loader fell thru 40 level roof - on south side of ore bin. Will fix by filling when 40 level is filled.

Compacted gravel base for pads complete.

Mt. Con.

Cutting guides. Braced man-decks by welding the "dogs to the guides. 4 deck cage string held only by dogs (very dangerous condition).

Reviewed total program at the Mt. Con with Brians

W. Gray Rock

OK. have reached natural surface S.E of shaft. Told dozer operator to not take any original surface material except in the shaft area where we may have to take area down past tunnel elevation.

Dumping area OK - continue to wrap around the Diamond. Care taken not to obscure the headframe from the flat area.

Gordon contacted MRI about moving Pole east of Dumping area.

Little Mina -

The haul road to be moved eastward With permission from Precious Metals,

5/14/87 cont'd

Steward

Worked with Brown designing a method of replacing a portion of old wooden Bins.

P.M.

Steward

Same as above.

W. Gray Rock - OK.

Little Mina -

Have started roughing in haul road move.

5/15/87

AM - Mt. Con

Finished cutting of Guider -

Lifting turn sheets . . .

Pipe tunnel along east side of turn sheets - carried slime, tailings down the mine

Will chain up hanging cages & skips - supports now with ½ inch cables connected with to hooks with leaded joint - dangerous as rust will deteriorate the joint.

Extra
Backhoe 690B 3 hrs
966C Loader 3 hrs.

W. Gray Rock - proceeding well - 3 haulpacs - 2 dozer 1-988B loader. Disposal area wrapped around on east side of Diamond Shaft.

Little Mina - opened to street

Road moved & graded.

Will start moving muck along old road location.

5/15/87 Cont'd

P.M. Mt. Con.

Pipe tunnel along outside of turnout sheeting - concrete arch - Told Don to leave Pipes in & bury. Will have to Break Arch in concrete cover area to get pad to elevation.

Concrete in Box Beam area along south side of shaft - will have to be broken out to get Beam to depth.

W. Gray Rock - OK

Little Mona - OK, - road mod.

Eleven hours @ 70.00 D-7 pushing RR Platform

Put into cu yards

5/18/87

Tue 901 Backhoe the 966C Loader there.

AM - Mt. Con Rain

Removing old timber etc in turn Sheet area. Had to be moved to be able to set the crane for lifting the Beam. To be filled & compacted for crane. Filled out north of slot for crane.

Breaking the top of the concrete Pipe tunnel with a headache ball. Will fill & compact in slot area not filled to support crane.

W. Gray Rock.

Extremely muddy - going ahead with hauling. East face of disposal dump washed out in two places. no harm done.

5/18/87 contd

Little Mira. 1st lift completed to the street
Started pushing of old haul road to the new haul road.
Very muddy – one truck became stuck in the mud.

W. Gogran.
shoveled a small fill to divert water.
Saturday AM storm had washed the area considerably. City did not attempt to repair the ditch before the storm.

P.M. – Int Con – Rain.
. Fill almost complete under the Turn sheet area. Used muck from old timber storage area. Gave permission to do so.
. Breaking pipe tunnel with head ache ball
W. Gray Rock – all ok.
Little Mira – all OK.

Note

7 hours hauling out timbers etc. from turn sheet area – ~~[illegible]~~ Filled with muck from Timber area ~~Tractor~~ – also includes Back hoe breaking concrete

5/19/87

A.M. Mt. Con Rain

Breaking concrete - Pipe Tunnel.

Loading debris - (see picture)

Filling area for support of crane

W. Gray Rock.

Hauling OK no problems

Little Mina

Hauling OK.

Extra
966C Loader 7 hr
16 cy Tr. 7 hours.

P.M.

MT Con OK.

Hauling debris:

Cleaned out south side of shaft for the box beam.

Concrete pier about 1½ feet further north than Bravo had planned

W-Gray Rock OK

Little Mina

Had bulldozed to steep against the haul road — See Harlan.

5/20/87 Mt. Con Rain

A.M- Finishing cleaning out trench for box beam.

Hauling debris to Diamond dumps

Snowing hard-

W. Grey Rock

2 men- very muddy-

Hauling

Little Maria

Hauling

P.M- Mt Con

Filling and compacting gravel for base of Box Beam

~~W. Gra~~ Finished Hauling debris

W. Grey Rock

Hauling OK

Little Maria Hauling OK.

5/21/87 Snowing like hell.

Mt Con Finished placing gravel pad north side.

Quit at 11 O'clock Weather

Installed 1/2" chain on skips (Extra)

W. Grey Rock

Hauling- real bad condition mud.

Little Maria

Hauling real bad condition- mud.

Talked with Joe Jordan about taking too much muck from East ~~side~~ yards

Might make bank too steep.

5/22/87

West Gray Rock & Little Minnie not working — Too muddy.
Belle of Butte — Back hoe & Loader on the job. 3 men
Dug for shaft & found shaft.
about 6 feet below surface.
3 compartments instead of four
Called Braico — put slabs on slope.
Cleaned out around shaft.
Dug down 5 feet in two west compartments
must be a bulkhead below surface.
Found rotten logging covering shaft — east compartment
appeared to be open but when dug out was full of
muck.
Shaped the area for the concrete slabs.
Shaped around shaft so that muck will not
again cover the shaft under the slabs.
Will need to haul extra muck to Diamond
Have piled the soil in separate pile.

Note — ½ day 5/21 & 1 day 5/22 — Weather days
for Rowling
½ day 5/21 for Mt. Con.

5/26/87 No Work – Rained all night.
Weather day.
Met Don Dovi & Joe Jordon at Belle of Butte
to make plan

5/27/87 W. Gray Rock & Little Mina Worked
Belle of Butte
Using Jack Hamer to cut out concrete engine base on south side of Shaft. Hauled away Excess material

tra
Truck 4 hrs
966B Loader 4 hrs

5/29/87 AM Anselmo Sand Pass
Uncovered Shaft – checked
To MRI & get location & size from the stope books.
Blue Print not correct – 3 compartment shaft
relocated design of beams to fit the shaft
Tore down ½ fence so as to get access
West Gray Rock Working
Disposal area getting full dumping north side to keep from obstructing the view of the headframe
Little Mina
Cleaning up to start Mt. Con #2 dump.
Pushing down main dump no problems

5/28/87 all Crews worked Belle of Butte Completed Concrete Flush
Taken out used jack hammer & back hoe
Hauled extra spoil away.

5/28/87 Con't'd

PM

Relocated shaft & agreed on location of cover panels.

Told contractor to make cover level so as to make playground for children.

W. Gray Rock working - all OK
Little Minnie - working - all OK

5/30/87

Working in lieu of 5/26/87 weather day.

AM Anselmo Sand Pass

all ok taking down rest of fence will haul debris to Kelley Dump.

area shaped - ready for gravel base.

W. Gray Rock

Looked over - dump - will push northerly and change road to swing out around the dump.

Most of area east & west of shaft down to original surface. Can now take off shaft collar & prepare for cover.

Mt. Con #2

Moving Dump & Rock wall

a lot of cinders.

5/30/87

P.M - Anselmo Sand Pen

Placing gravel footings - compacting with Whacker

Have not hauled debris from the area.

W. Grey Rock - ok - hauling

Little Mina - Dozing to loading area

Mt. Con #2 - Hauling - all OK.

6/1/87 A.M.

Anselmo Sand Pen

Placing & compacting footings

Moving Back hoe to W. Gray Rock.

Told Dave Steward & Belmont designs are not ready.

W. Gray Rock

Hauling ok - not too muddy.

Little Mina - Loading - OK

Mt. Con #2 - Dozing to loading area

P.M - Hauling debris from Anselmo Sand Pen area

Mt. Con #2 - Pushing material from shaft area.

Little Mina - Hauling OK.

W. Gray Rock - Hauling OK.

6/2/87 no work by shaft cover crew.

West Gray Rock:

Uncovering shaft. Large Concrete mass around the shaft area. Trying to break up concrete - may need Headache Ball

Little Mina Hauling OK. Pushing muck from N.W corner to the loading area.

P.M.

Reviewed West Gray Rock with Joe Jordan.

Pushed shaft concrete from concrete exposed some timber. can only ~~locate~~ locate one compartment - can't tell which direction the other compartments are located.

/3/87 AM - ~~Gray~~ W. Gray Rock shaft.

Using back hoe exposed three compartment shaft outside of shaft encased in concrete

Hit Concrete bulk in all three compartments

Started grading area, using back-hoe, for the concrete cover.

Will slope the concrete beams 90° to the strike of the shaft.

P.M - Placed beam on the Anselmo Sand Pass

Job Well done.

Don Davis crushed his hand

6/4/87

AM - Shaft crew not working
W. Gray Rock hauling OK
Little Mina Hauling OK
Mt Con #2 - Pushing rocks for load.
PM. W. Gray Rock hauling OK
Little Mina Hauling - OK
Mt Con # 2 Pushing down for loading

6/5/87 AM

Mt Con #2 found shaft - marked
will clean out and define with a backhoe
West Gray Rock Loading - OK
Little Mina hauling OK.
Mt Con # 2 pushing
Met Bruno at 10:00 visited W. Gray Rock & Little Mina
Discussed pushing Road back at Little Mina. - Taking
Dump back to 14" air line Lunch (Jordan, Bruno, Pifer [illegible])
P.M. -
Met with Bill Charter & Don Gardner (Precious Metals)
with Bruno - Discussed Alice - To Charter to
Little Mina - to discuss pushing road Back to Pipe Line
Will let us know Monday.
Visited with Bruno - Anselmo Sand Pass, W. Gayam,
Belle g Butte, Little Mina.

6/87 ~~Worked~~ Two Dozer & 988B part Time
One Dozer on Little Mina & other on Mt Con # 2 - Pushing
① muck down. Opened Con # 2 shaft - Covered over
Hole not too dangerous, Did not see hole (operator said he Pushed muck over Hole)

6/7/87 - No work - Rained hard. Sunday

6/8/87 AM - Belle of Butte
Placed 10 - beams across the shaft
6th & 7 from east end over two west
compartments - center compartment of 3 has guides
which are @ 2'10" between guides (4"X4" guides)
1 - finished cover at 1:00 oclock.
West Gray Rock hauling - OK
Little Mina Hauling OK.
P.M. - started filling around Pad at Belle of Butte
Have dozed a road for the above fence
Will start fencing Wednesday.
Hauling OK on both Little Mina & W. Gray Rock.

7-12:30
-4:00
(6½)
on reviewing
el's Report

6/9/87

A.M. - Belle of Butte
Finishing grading around pad
West Gray Rock
Will finish main Dump Today
Have fine-graded total area - Looks good
Will start on Lower lift tomorrow.
Little Mina
Upper dumps along street fine graded
Hauling ok - Pushing down from Con Road
Met with Crowley - said OK to take
dump from above the road. With Jordon and Crowley
(Note) Representative from Operating Engineers Union looked
at Little Mina Project - wanted to know
which was State ground - Told them that DSL moved
Health & Safety with Fed. Coal money

6/9/87

Note - there could be problems instigated by outsiders
P.M Hauling - W Gray Rock, Little Mina, Grading at Anselmo sand pan

6/10/87

A.M. Mt. Con #2

Found open hole - evidently fell in after the rain the nite before - I had walked over the hole on saturday & put a stake to mark the spot. Dozer operator evidently just bridged the hole with muck.

... cleaned out the collar - found to be a 3 compartment shaft - Will require 2 additional beams to cover adequately - Called Brazies - OK to ~~[illegible]~~ have Davis order two more beams.
Shaft in bad shape - rotten timber and caving sides & ends - Very dangerous.

Little Mina

Started pushing down upper Little Mina Dump (Mt. Con #3)

Pushing down along North road.

West Gray Rock

Almost complete on upper lift.
about one more day required -

P.M. All OK - W. Gray Rock, Little Mina, Mt Con #2
Mt. Con #2 - Have cleaned out rocks around shaft. preparatory to placing gravel for pads.

6/11/87

A.M. – Mt Con

Placement of 4'x4' Box Beam very slow operation walking it slowly in to place by a few feet at a time with Two Cranes

Note: beam cracked @ 25' from cast end with 1/32" wide at top – feathered out at 36" below top

10:00 Brown & Murdie reviewed all working areas including West Gagnon.

P.M. – W. Gray Rock – Little Maria – ok Hauling

Finished @ 3:00 placing 4'x4' Box Beam at Mt Con

/12/87 AM – Placed nine of the concrete Beams at the Mt. Con. – Very slow had to pick up Beams twice to get them in Place.

On the 4'x4' beam

Note: Cracks closed up with the weight of the beams

P.M. – All three at the upper lift of the West Gray rock. Dug holes to bury the concrete Blocks Started filling around Block.

Little Maria

Trucks from West Gray Rock Hauling upper Little Maria (Mt. Con #3)

Little Maria Hauling ok.

6/13/87 Prepared Mt Con #2 area for concrete cover. Worked most of day.

/14/87 Inspected Mt. Con #2 All ok.

6/15/87

W. Gray Rock

Block of concrete Buried — Looks good

Very little sulphide along railroad pushing what there is into piles.

area looks great.

Little Mina & upper Little Mina

All going well down to Soil on portion

Mt Con #2

Set 12 beams - all went well

No work on Alice Fence.

6/16/87

AM - W. Gray Rock - Little Mina -

Preparing shaft for concrete beams. started Pushing over on & South Dump

Hauling at Little Mina & upper Little Mina OK.

Talked with Joe about finishing off Mt. Con #2 & placing the riprap in ditch - Water had crossed down the Mt. Con #2 area & drained into the Shaft by entering under the Concrete beams. The riprap ditch is necessary to keep drainage out of the shaft and causing premature caving.

Dozer cut road to West Gray Rock to enable the transport ~~to~~ with the concrete beams to reach the shaft.

PM. W. Gray Rock finishing preparation for pads.

Cut ditch at Mt Con #2

Both Little Mina Dumps OK

~~[illegible]~~ working on Alice Fence TOP rail

6/17/87

Thru Mt Con.
2 hrs Welder at Mt Con
2 hrs Pelletone

AM- Placed concrete Beams on West Gray Rock shaft
All went well &
Little Mina - hauling OK
Upper Little Mina - hauling OK
Finished area around pad at Mt. Con #2
cut "V" ditch at Mt Con #3 will need
additional sloping for rip-rap.
Putting Top rail on Fence @ Alice

PM - West Gray Rock shaft Finished
Filled around the concrete Pad.
Little Mina OK - Alice - Put Fabric up

6/18/87 AM
Mt. Con

Two 8 hrs Welder & Pelletone at Mt Con

~~[illegible]~~ Welding guides back into place.
Alice - Chain link on about ½ of Fence
Finishing top rail.
Little Mina - Grading OK
Upper Little Mina - Grading OK - Reshaping ore on South Dump
Belmont - Fabric will be here Friday - will start earth wall
on monday - Question by Joe, where do we get the fill material

PM— Welded & cut 4 guides complete at
the Mt. Con.
Doing well at the Little Mina
Complaint to Silver Bow - homeowner on
Mina street water from water truck [illegible]
below dump. — Looked at - water from
rains not from water truck.

6/19/87

Upper little Mina OK - pushing high dump for loading.

Tue
welder
Pellebone
Mt Con

Hole ~~road~~ moved road to east

Little Mina. OK. shaping north slope

Mt. Con - welding guides & dividers back in Place. Clean up 988 - 2 hours.

Called Quirock - will take him to the Mt. Con ~~[illegible]~~ Tuesday.

Fabric come in for Belmont.

Fencing complete at Alice } 1366.4 feet of new wire
8 old posts used on South side rest all new posts

6/22/87 AM

Tue
3 hr Welder
in Pettibone
at Mt Con.

Cleaning up around the Mt. Con.

Told them to take one of the old tin buildings, leave two of them - clean down the dangerous timber on the old timber storage area.

Haul in fill to put around the concrete pad. Cleanup & Con 988 & Truck 5 hours.

Little Mina OK

6/23/87 Cleaning up at Mt. Con

Tue
Cat - 4 hr
988 - 8 hr.
Truck - Total 12 hr
at Con

Putting turn sheets down north of Pad

Pulled Muck & debris down on old timber slides.

Started W. Gray Rock drainage ditch - too narrow

Fred Don & Joe

Little Mina upper & lower OK

Clean up North and East side of Headframe @ Con -

Cat Pushing timbers (old) to pile.

/24/87 Have widened ditch at West Gray Rock
Don will contact Mont. Power & Tele co. to move two poles in order to allow ditch to go by.
Staked the decomposed granite outcrop on the West Gray Rock – will be Sealed
Surveyor contacted will survey probably tonite.
Mt. Con – stacking Rails – about through.
Little Mina OK. – Trying to move and bury the Little Mina engine base.

-Wolder
Pelletier
con

6/25/87 Crew (Zobenica & Randy) surveying the West Gray Rock they found & tied into a control station for the aerial photos.

/28/87 Started Belmont – cleared out 40 level preparatory to starting the earthfill wall.
The wall proceeding nicely – Compacting each layer very well.
Little Mina – undercutting the ~~to~~ Hoist engine base – Tried three D-8's still couldn't move it. Will continue to undercut. Have dug hole for the concrete base
Ditch at West Gray Rock – proceeding ~~acc~~ according to plans. Telephone co. moved pole & Mt. Power moved street light.

6/29/87

Belmont earth Wall proceeding nicely.
Loading with small front end loader into hoe —
Used a ~~[illegible]~~ metal slide to get muck
into wall area.
Little Mira & W. Gray Rock O.K.

6/30/87 Signed ~~and~~ approved payment request dated
June 26, 1987.
Belmont earth wall up to a height of 10' —
layers compacted properly.
Started filling from hole next to fence in order
to brace the south portion of the earth wall
~~Little~~ Mira
still digging around Engine base — Two 8'
couldn't move it.
W. Gray Rock ditch OK
Jim Lillie at 2:00 went thru project
no comments — appeared to be satisfied.

7/1/87 AM Belmont OK — filling earth wall.
Little Mira OK
W. Gray Rock Ditch — digging complete
will finish rip-rap today.

Called Jetumen at DSL.

[illegible]
Littlebone — 8 hrs
[illegible]lan 8 "
12 CY Tr — 4 "
8B Loader 2 "
Compactor 8 "

7/2/87. Belmont

Soil wall up to within 3 feet from the top of the station site - compacting proceeding as planned

Little Mina -

~~Eng~~ Engine Base pushed into hole and buried -

Roughing in lower road for the final lift of the Dumps.

— Started Rip Rap ditch along west side of Little Mina Dump.

W. Gray Rock

Finished Rip-Rap ditch - Gray Rock Complete

Extra
Pittelove 8 hr
Walden loader 8"
TV , 2"
988B loader - 1"
compactor - 8"

Called Don Peoples

No work 7/3/87, 7/4/87, 7/5/87 & 7/6/87

7/7/87 Joe Jordan Ditch — 890 ft. W. Gray Rock

started lower lift at the Little Mina - shaft posts exposed.

E
Pittelove 5 hr
Walden loader - 8 hr
Welder Tr - 3 hr
y TV - 2 hr
988B loader - 1 hr

Rip-rapping west ditch.

Pushing material up hill to fill depression on the ~~Sou~~ North side of the concrete Engine Block.

Engine base buried a small portion only 2 feet of cover - base did not turn over as expected.

Belmont - finishing earthwall - one more lift. - tough going under the roof & top of tramway.

Will finish seam at N.W. corner of the Gray Rock area - today

7/8/87

Belmont working on Earth Wall – Finishing
Rip-rapping West Ditch at ~~Little Mexico~~ Gray Rock.
Hauling Lower Left Little Mexico

Extra at Belmont
410 J.D Backhoe – 8 hrs
12 cy TK – 8 hrs
988B – 3 hrs
Welder – 4 hrs
Welder Tender 4 hrs

7/9/87 Belmont
Completed Backfill
Welded Leg Braces back in place
Hauling OK @ Little Mexico

Extra
Welder – 8 hr
Welder Tender 4 "
Pettibone – 4 "
12 cy Truck 3 hrs
988 Loader 1 hr

/10/87

Cleaned up around Belmont
Hauling Proceeding at Little Mexico
Examined the Rip Rap ditches at W. Gray Rock & Little Mexico – Not Satisfactory.
Down to Corner on Little Mexico Ditch.

7/13/87

4/87 Belmont welding guides & skirts back in place.
[illegible]/87 Talked with Joe – not satisfied with Rip-Rap ditch at Little Mexico.
He will redo the W. Gray Rock & Little Mexico ditches
Hauling Proceeding

7/15/87

Finish-graded Little Minnie.
Shaft located - Location marked.
Small back hoe not working on ditch
Belmont crew not working

7/16/87 Belmont crew not working
Back-hoe (ditch) not working
Will finish hauling today at little aspen
Will need some trimming with dozer.
Met with Braico reviewed projects
Agreed to
Take dump material west of shaft
& north of Little Minnie street down to
original surface in the gulch.
Reroute rip rap ditch to follow bottom
of gulch.

Have West Valley fix the Josephine shaft.
He will ask Ron about having West Valley
finish the West Gaynor

Braico OK'd Ditch along North side of Road at
Mt. Con Bin.
Belmont & Mt. Con OK.

7/17/87 Back hoe on Ditch at Mt Con #2 all OK
Digging down to original surface at Little Mina Gulch. in accordance with request from Braico & Piper – all OK.

7/20/87 Little Mina
mont
Extra
lder – 3 hrs
Welder – 3 hrs
[illegible] 3 hrs

Shaping bottom of Gulch – OK
Back-hoe digging ditch along upper road
also hauled gravel ~~[illegible]~~ to ~~[illegible]~~ widen the road (street) along the ~~east~~ north west side of the Gray rock preparatory to paving by the city of Walkerville.
Completed Welding ore car to rail & Replaced material
Worked away all at Belmont.

7/21/87 Little Mina
Final shaping bottom of Gulch.
Will finish today

(Note – 18" culvert at West Gate (Mt. Con #2) but 15" across Little Mina street. See Braico about a bigger culvert possibly 18"
Braico – Put 18" at Little Mina + 15" at Mt Con #2)

7/22/87 Finish shaping at Little Mina
Pushing soil over bottom of Gulch.
Grouting lift pockets in shaft slabs
started at the Mt Con.

Extra
410 JD Backhoe 3 hrs

Extra on Grout
welder Tr – 8
Laborer – 8

7/23/87 –

tra Grouting
ilder Tr - 8
ner - 8

Shaping Little Mina – one dozer.
Pushed soil into gulch.
Hauled Lime Rock
Placed 50 feet of 15" culvert & manhole at Mt Con #2
W. Gray Rock ~~paving~~ paving along the rip-rap ditch are finished – did a good job.
Looked at the Humboldt & Wild Bill shafts that have subsided the surface.

7/24/87 Cut ditch across Little Mina S.T.

Grouting Belmont et al – [illegible] slurry

Extra
410 Backhoe - 8 hr
actor 8 hr
Extra Grouting
W ly Tr - 4 hr
Sabner - 4 hr

Placed feet of 18" culvert.
Manhole not available filled hole ~~[illegible]~~ to be safe for the week end – will uncover monday when the manhole cover arrives.
One dozer shaping Little Mina area.
Other dozer – pushing soil & shaping gulch area.
Started Hauling lime to SW corner Little Mina area

7/25/87

JD Backhoe 8
Sabner - 8
mpactor 8

Hauling lime to Little Mina & Mt Con #2
30 Tons per truck plus trailer load.
Placed Concrete Cap on the Little Mina Shaft
Placed 10 Beams.
~~Little~~ Started rip-rap ditch across Little Mina ~~to it~~ toward the culvert.
Planned final finishing and route of rip-rap ditch with Joe Jordan
Took Don Davis to the Josephine shaft found another deep hole that will fill near the ~~Jos~~ Josephine.

7/25/87 ~~Fe~~ Continued

Talked with Brosio about the Humboldt and Wild Bill shafts - will add to next contract (Get map of location to him.

Also a map of the Green copper shaft.

Finished Grouting lifting eye pockets.

Filled Josephine Shaft - Dug down 18' at shaft
Put in 7280 gallons of H2O
old stope did same with 10,000 gallons of;

NO Backhoe & ~~3~~ men on Josephine 1½ days

7/27/87

Placed Beams over Little Maria Shaft.

Grouted lifting-eye Holes.

Pushed material around pad - Were able to break the rock outcrop down - sloped into the pad.

~~Hauling soil~~ Hauling Lime to the Little Maria

~~28~~5

7/28/87 Hauling soil to the West Gray Rock.

Hauling Lime to the Little Maria

Digging ditch at Little Maria.

Reviewed ditching & final grading with Joe Jordan

Hauling Lime with Belly dump trailer & follow trucks

30 Tons per load - are weighing each load

I will get copies of the weight receipts.

Soil hauling with 12 cy end dump trucks

Will receive truck count.

Josephine sh
filling 2 holes
one a shaft &
one a Stope

W
JD Backhoe sh
Filling Josephine sh
5 loads of H2O
24 TV - 1 hr.

7/29/87 Bad rain storm last nite

Worked over Little Maria Road - planned with Joe the program of water control at Little Maria.

Water control along street on west side of Gray Rock performed perfectly.

9/87 Continued

Report ~~that~~ of a shaft that failed west of the Kelly about 10'x10' & about 40' deep - a small amount appears to be extending westward Dangerous)

Joe Jordan will call Jim Johnson & ~~Bid~~ Bill Mehren about water from culvert under Little Mina.

Something will have to be done about water traveling down west side of Little Mina Street & crossing over to the reclaimed area & causing Washing.

Met with Joe, Don & Bill Mehren - about the culvert through Little Mina Street - He wants culvert extended

Jim Johnson met with Joe - he will repair Little Mina Street.

Small shaft near the start of the Rip-Rap ditch caved in during storm Tuesday nite. the shaft partially under ditch - water ran down shaft & caused cave.

/30/87

Little Mina - Finished digging Rip-Rap ditch
Dug out & Filled small shaft along west
Gray Rock rip rapp ditch - used 3000 gallons of
water water held when filled.

Worked on Contour Map.
Met with Bill Mehren - will write letter - will
get Map of property ownership at Little Mina + Summit Street

Hauling soil to W Gray Rock - To Ryan site - all ok.
Hauling lime to Little Mina - about ½ through.

7/31/87 Met with Bill Mahren - 8:00 - will have letter
& map of ownership today.
Hauling lime to Little Mina - Soil to W. Gray Rock.
Met with Brocio
OK to - Fill Little Mina east shaft
- Humbolt shaft.
- order & place culvert away from
Summit street
Lime hauling about 2/3 complete at Little Mina
Soil complete at W. Gray Rock

Bucked road into Little Mina east
shaft preparatory to filling - shaft opened up to
40 or 50 feet deep - very dangerous.

8/3/87

:Pouring water down Little Mina East Shaft
Taking water - fill not piling up
Filling by loader - dump waste rock from the Little Mina disposal area. (Good rock for filling shaft.
Picked up letter from Mcklean along with a map of the culvert at Summit Street.
R.O.W. OK for additional culvert

PM - fill started to accumulate in Little Mina East Shaft.

8/4/87

Water disappeared in Little Mina East Shaft overnight
Filling & water. 28,000 gallons of H_2O has been added.
Hauling soil & lime to ~~Little Mina~~ Little Mina area
Zofencia will survey it tonight.
35E 28,000 gallons of H_2O & cy fill into the Little Mina East Shaft.
The fill ~~for~~ held the water and ~~the~~ the muck was dumped into the shaft
Humboldt
Dug 28 feet deep, Hit timber at 23-25 feet
Big boulders had been lodged on top of timber. Was able to get 2 or 3 out but some remained.
7,000 gallons of water poured down the shaft without any problem - Finally clogged the hole with dry muck & fine stuff filling - Will need a cover.

8/5/87 AM

Filled rest of Humboldt Shaft 36 C.Y.

No more water - some water bled overnite.

started placing manhole northeast of Summit Street

Hauling soil & Lime.

Finished placing manhole at the Summit crossing

Tipped Lime Trailer over - slowed down work on the manhole.

Bruce arrived at 10:00 - reviewed project & agreed on location of Tube on Bell st. To be all on west side of street - a manhole at exit from Summit st & a ~~[illegible]~~ box at the Bell st crossing

8/6/87 - Hauling Lime - will complete lower Little Minie Today.

started on manhole on south side of Summit st.

Hauling soil to Little Minie

Reviewed last change order with Don Dorin - the Mt. Con #2 Panels (extra 2) were not on & the Historic work at the Belmont not on.

8/11/87

Placing flow box on West side of Bell St.
Culvert from summit to box in place
Grouting manhole yet to complete
Looked at two holes reported to Joe Jordan by Bernie Harrington

1. Just north east of West Gray Rock pad.
Looks to be a pipe tunnel
Hole about 2' square
needs to be opened up & filled

2. Drill hole 1' dia in ~~soo~~ Balma road
at turnoff to Diamond —
Hole dipping North —
needs a little fill — not dangerous

Looked at Humboldt shaft fill
cracking in the shape of the shaft — must
still be subsiding.

Told Joe Jordan to send dozer to West Gray Rock —
open hole & fill

Told Joe Jordan to put a plug in drill hole & fill.

Barricaded the street for over night.

/14/87 -

Rip-Rapping culvert entrance & exit at Belle street. Rip rap looks good. Placed cover.

Hauling soil.

Rip~~rap~~ Rapped crossing on north side of Summit street, placed cover.

-87 - Hauled fill around manhole - south side of Summit street.

Joe Don & I staked the area for lime and soil at the West Gagnon.

Finished cleaning up area & rip rapping along Belle Street hauled dirt around manhole.

Put 2' lengths on each end of the Belle street 15" tube in order to be able to place fill over culverts. - Finished rip rapping.

/87 Started Ditch & rip-rap south side of Little Mina

Finished rip-rap at manhole north side Summit st.

Finished Soil 10:00 AM - Little Mina

Billy dumping for Mt Con #2

~~Finishing [illegible]~~

87 Finishing rip-rap ditch So. Side Little Mina

Met with Bill Ofledal at West Gagnon - in turn met with Don Davis & Joe Jordan - they will repair the berm at the West Gagnon.

/20/87

Hauling lime to the West Gagnon

Placing across curb with loader.

Uncovered the gallery on south side of the Steward shaft.

Cut off vent pipe & put grate over remaining pipe about 10 feet below the collar.

Don Davis & I reviewed all the structure in the Headframe - Found the girder to be tied back to the main frame - Can tie the superstructure back to the girder.

approval — Called Bruno approved using 17" pipe filled with concrete for Caisson to support the superstructure

Staked a small additional area to be ~~[illegible]~~ covered with soil on the Little Mina.

8/21/87

~~He~~ Davis brought water to protect ~~from~~ the shaft from fire while cutting torch. Have cut stairway support - seems to be holding well. ~~Should~~ West Gagnon liming project will be complete today.

Met Bruno & Ben Sunday - visited West Gagnon & Steward. He will look at West Gray Rock (the west portion acid area).

P.M. Removing material on East portion south of shaft. Gagnon OK.

Note Bruno - add lime to mulch on acid spots on W. Gray Rock

/24/87 West Gagnon – Extra
Hauling Lime – Bumping on street & spreading with 980 C Loader
Started on Steward – Uncovering South Gallery with 410 JD Backhoe.

8/25/87. West Gagnon – Extra 980 C spreading soil – have finished lime.
Steward – moved skips and man cage to east side of Carriage way – finished filling East portion of gallery.
Moved 17 inch pipe from Diamond area – will use for legs to the superstructure

/26/87 West Gagnon All Extra
980C Cat Loader Spreading Soil Hauling with 12 CY Dump Truck, doing fine – No Problem.
will need Laborer to clean Washington st.
Welded East tie (8" wide flange) ore bin superstructure to the guide frame. Have prepared the west tie for welding.

/27/87. West Gagnon All Extra
980C spreading soil & cleaning st. Laborer cleaning street
Steward
Placing second (west) 8" wide flange) tieing skip dump to main head frame.
Finished hauling soil on the Little Mina.

8/28/87 Steward

Took [illegible] covers from top of gallery. – Backhoe – hauling debris from area to P.T.

Cutting 12X12 beam for location of 17" pipe column.

~~Spa~~ Little Maria

Spreading top soil – will complete by noon.

Hauling debris from Steward complete

Will haul fill & stockpile – for the earth well

Forms for the pipe columns complete – 6" height 4' square.

Took trench at West Gagnon – Working street with a hoe. – completed at West Gagnon

The south panel still needs attention –
West Valley agreed to repair at Offedahl expense

Finished Paint at Little Maria

[illegible] Fence

8/31/87 – Piper in Idaho.

Work at Steward only.

Finished Hauling debris – Hauled fill material and placed in stockpile.

Finished forms for 17" pipe support footings
Drilled 2 holes thru floor of gallery – 6" concrete on solid material – no wood or forms under flooring. Used one Cy Dump truck to haul the fill material

9/1/87 Poured footings – set one 17" pipe and placed spiral rebar in pile – plumbed & true vertical – ready for pour.

Piper in Idaho.

Bracco in Butte

9/1/87 Bracio approved

1. An additional soil cover on Eastern side of upper Little Mine — approximately one acre.

2. cover west part of West Gray Rock with lime and soil — about one & one half acres.

Grizzly fence — Placed ~~[illegible]~~ iron posts at West Gray Rock

9/2/87 Steward — Equipment { Pettibone
Welding Truck
Cement Truck

readying the West pipe support for concrete in P.M. placing "pour-wire"—

1 West area additional work approved by Bracio with Don Davis — Talked with Bracio all OK.

Equipment at Steward — Pettibone & ~~410~~ 690B JD Track Backhoe & Welding Truck.

Grizzlie Fence Co. Finished Wire at Little Mine

2:30 — 5:30 poured concrete in 17" pipe columns 2½ cu yards per column using a low slump concrete. The first 6" (bott of Pipe) was filled with grout to make a positive joint with footing.

Finished piling high acid soil at the West Gray Rock — readied for hauling — Removed small dump at northeast corner of area — pushed it into the toe of the East Gray Rock dump.

Started one layer of the Earth Wall at the Steward

Grizzlie Fence Co — finished Posts at West Gray Rock.

9/3/87 No work at the Steward A.M.

A.M at the West Gray Rock - Hauled the high acid soil to the Diamond Disposal area.

P.M. at the Steward - placed a second layer on the Earth wall at the Steward.

Filling the pipe gallery using the 980C Loader.

Equipment at Steward

980C Loader
Pettibone
Whacker.
Welding Truck.

G.R. 22hay Fence Co - Putting wire on at West Gray Rock

9/4/87 Measured fence at West Gray Rock with Don Davis
474 ft completed at 10:00 AM.
Measured fence at Little Maria
1073 ft completed 9/2/87

No other work - Friday Holiday

9/5 Holiday
9/6/87 Holidays
9/7/87 Labor Day

9/8/87 - Hauling soil to the West Gray Rock
*Continuing Earth wall at Stewart
2' layer - compacting well - no other work
Wall completed to minimum height under ore bin storage

9/9/87 Placing H-Beam under sills on top of 17" pipe standards
Cont - Post still in middle of pipe gallery has settled about 1" - can't find the cause - The pipe standards have not move - welds at top of standards still in place.

9/10/87 Hauling soil to the West Gray Rock
Finished the welds on the 17" pipe columns.

9/11/87 Hauling soil to the West Gray Rock

Cutting iron bottom on old ore bin preparatory to pulling down the structure
. Finished cleaning old ore Bin floor.
Took pipe rail from fence at Stewart - I had contacted Rob Zotenia of NMP and got Permission to take down fence on Monday.

14/87 Hauling soil to the West Gray Rock covering the same area.

Cut off knee braces on ore bin & pulled down the Section. Slow work cutting the 1" bolt heads on the ~~structure~~.

Measured the Anselmo's Sand Pan Disturbed area.

9/15/87 Finished soil on the West Gagnon.

Pulled down all posts from the old ore bin.

The super structure relapsed some but did not cause any Trouble.

The North three 12x12 posts when removed, did not cause any relaxing of the structure. The cross-braces placed at the main loading platform held in place.

Took out the remaining Pipe Gallery roof & finished earth Wall

6/87 Soil hauling at the Little Mesa.

Reviewed options with Don Davis reviewed & # Initialed the payment requests.

Started to cut the guides in the shaft.

Earth wall Complete. Compaction over the entire gallery area ~~Sug #~~ Very well done.

Sept 16, 1987

Steward Shaft - Completed reinforced earthwall to sub-grade of Cap Girder. Start cutting Guides

Equipment:
690B Backhoe
Compactor J Type
Labor

2ea 12cy Dump truck haul soil to Little Mina East.

Sept. 17, 1987

Steward Shaft - Worked on removing Guides for placement of Cap Girder's. - Labor started drilling concrete deck for removal of concrete.

Equipment:
Welding Tr.
100 cfm Air Compressor/drill
Pettibone Crane
Labor

Sept. 18, 1987

Steward Shaft - Completed removal of Guides. Completed the drilling of concrete deck. Started the removal of Concrete deck. Concrete very solid needed drop hammer to brake into smaller pieces.

Equipment
690B Backhoe
Air Compressor/drill
Pettibone Crane
Welding Tr.
Labor

Sept. 21, 1987

Steward Shaft - Completed the removal of the concrete deck. Check lay-off for Cap Girder. Grade same to subgrade.

Equipment
690B Backhoe
Air Compressor/drill
1 Labor
Welding Tr.

42-381 50 SHEETS 5 SQUARE
42-382 100 SHEETS 5 SQUARE
42-389 200 SHEETS 5 SQUARE
NATIONAL

9/26/87 - No work

9/27/87

Measured lime area at West Gray Rock

9/28/87 -

Stewart - dressing-up fill on south side of shaft & top of concrete wall. Some welding on replaced guides

Started remodeling Little Mine Drainage Ditch

Jensen drilled & fertilized the rest of the West Gray Rock.

10/26/87 from Don Don Dom

563 - 7987

Bonnie:
Seeded Friday Sat. & Sunday - Drill Seeding
Content with the region
will mulch Belmont Sand Dam & Beale of Butte
ords end of week.
Cleaned out 3 shops - all gone.

Bob Broico called Doris

[redacted]

Photo Log

Globe-Weis
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See Binder for
Slides